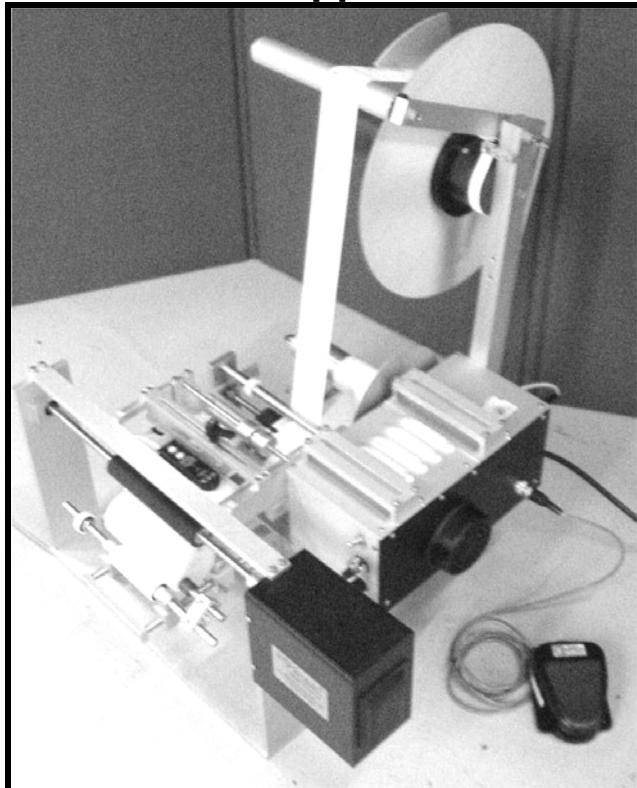




Engineering
labeling solutions.

R-310 Label Applicator



Operator's Manual

Serial #

Operator's Manual
Version: H 8/5/2004

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Table of Contents

SECTION 1	OVERVIEW	4
	INTRODUCTION	4
	UN-PACKING INSTRUCTIONS.....	5
	PRODUCT WARRANTY	6
	SPECIFICATIONS	7
SECTION 2	SETUP	8
	ASSEMBLING THE R-310	8
	FUNCTION OF UNWIND ASSEMBLY	9
	WEBBING THE R-310	10
	WASTE REMOVAL	11
	CARRIAGE ADJUSTMENT AND PRODUCT PLACEMENT	12
SECTION 3	OPERATION	18
SECTION 3	OPERATION	19
	TRI-TRONICS OPTICAL LABEL SENSOR.....	19
	OPTIONAL LION SENSOR FOR CLEAR LABELS	20
	OFF DELAY	21
	TIMER ADJUSTMENT	22
	AIR ASSEMBLY ADJUSTMENTS	23
	AIR REGULATOR	24
SECTION 4	MAINTENANCE.....	25
	GENERAL MAINTENANCE	25
SECTION 5	RECOMMENDED SPARE PARTS	26
SECTION 6	DRAWINGS AND BILL OF MATERIALS	27
	MAIN ASSEMBLY	27
	AIR CYLINDER MOUNTING ASSEMBLY	27
	FRONT PANEL ASSEMBLY	27
	REGULATOR ASSEMBLY	27
	LABEL SENSOR/PEELER ASSEMBLY	27
	OPTIONAL STARWHEEL /PEELER ASSEMBLY	27
	UPPER IDLER ROLL ASSEMBLY.....	27
	STANDARD CARRIAGE ASSEMBLY	27
	13" UNWIND ASSEMBLY	27
	POWER MODULE	27
	DIMENSIONAL DIAGRAM	27
	WEBBING DIAGRAM (OPTICAL).....	27
	WEBBING DIAGRAM (OPTIONAL STARWHEEL)	27
	ELECTRICAL DIAGRAM	27
	TECHNICAL SUPPORT	28

SECTION 1 OVERVIEW

INTRODUCTION

Thank you for purchasing the R-310 semi-automatic round product label applicator. The R-310 is known for high quality and operating convenience. With proper maintenance it will provide many years of dependable and trouble free service. We wish you much success with this product and will always welcome any suggestions you may have as to how we may improve our products. Read this manual and familiarize yourself with the machine before using this equipment.

Operation:

A round product is placed on the carriage rollers and against the end stop. When the operator presses the foot switch, a time delay cycle that controls an air cylinder is activated, the drive roller starts to rotate, and the label starts its dispense cycle. Air supplied to the cylinder causes the carriage holding the product, to be elevated into contact with the drive roller. When the product makes contact with the drive roller, it will start to turn. At this point, the label is being peeled from the backing paper and will contact the product just in front of the drive roll. As the product continues to turn, the drive roller will press the label onto the container until the label is completely applied. The carriage will drop, the product can be removed, and the machine is ready to repeat the cycle.

UN-PACKING INSTRUCTIONS

When the machine is received, the shipping carton will contain the following items (see Fig 1).

1. This Manual in a Manila Envelope.
2. Foot Switch.
3. Unwind Assembly.
4. Unwind backing disc.
5. Removable label disc.
6. R-310 Body.
7. 10' of 1/4" Air line.
8. Air Fitting, Part # 100220 1/4" NPT x 1/4".
9. 9/64" Allen Wrench. (inserted in air line for safe keeping)

Carefully unpack the R-310 and place machine on a table or suitable flat surface. Be sure no small parts are left in box.

Verify contents of box with list above. Inspect machine for any damage. Report missing components or damage to your distributor immediately.

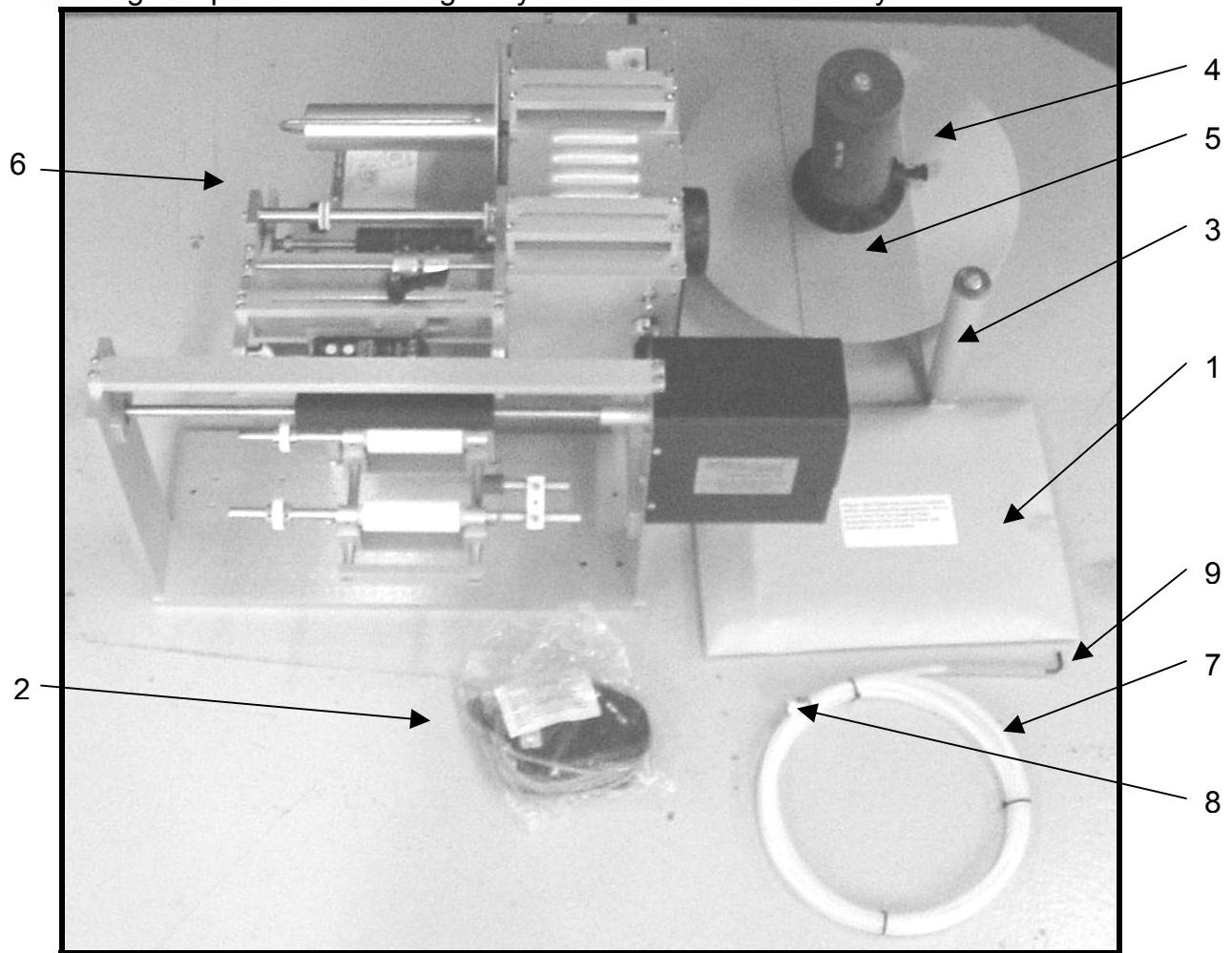


Fig 1

PRODUCT WARRANTY

Universal Labeling Systems, Inc. warranties all parts to be free from defects in material and workmanship for a period of one year from the date of shipment from our facility.

This guarantee is based upon equipment being used 8 hours per day, or 40 hours per week, or in any increment which does not total more than a single shift operation, or 2,080 hours per year. Warranty will be reduced proportionally.

This warranty does not cover parts failure caused by lack of normal maintenance, abuse or misuse of the equipment.

PERFORMANCE GUARANTEE

All equipment manufactured by Universal Labeling Systems, Inc. carries a 30-day performance guarantee. If your machinery does not perform as described in our quote to you within 30 days of shipping, Universal Labeling Systems, Inc. will make every attempt to correct it. If after a reasonable period of time, the machinery does not meet the specified performance, we will take your machine back and reimburse you in full.

SPECIFICATIONS

Electrical Power: 120VAC +/- 10%, 5 Amps, 60Hz
Compressed Air: Clean, Dry, 20-40PSI, 5CFM
Product size: ½" to 6" (12.7mm to 154.2mm)
Web width: 7-1/8" (180.97mm) web capacity
Machine Size: on 3" (76.2mm) core – 12" (304.8mm) diameter roll
21.24" Wide 27.36" Deep 24.32" Tall
(539.5mm Wide X 695mm Deep X 617.7mm Tall)

Weight: 52 lbs (19.4 Kg)
Shipping Weight: 69 lbs (25.7 Kg)

SECTION 2 SETUP

ASSEMBLING THE R-310

The only item that needs to be added to the R-310 is the Unwind Assy.

1. Turn your attention to the back of the R-310 where the AC Electrical cord is attached.
2. Remove the two screws where the Unwind Assembly will be assembled to the body using a 3/16" Allen wrench (not provided).
3. Remove the plates from the Unwind to reduce weight and make it easier to mount the assy.
4. Using a Square, mount the Unwind Assembly as shown below in Fig 2. The Long screw ($\frac{1}{4}$ -20 x 1-1/2") goes in the top hole. The shorter screw ($\frac{1}{4}$ -20 x 1-1/4") is in the bottom.

Note: Double check squareness after the screws are tight and make adjustments as necessary. The Unwind Assembly needs to be square to insure proper tracking of the labels onto the product.

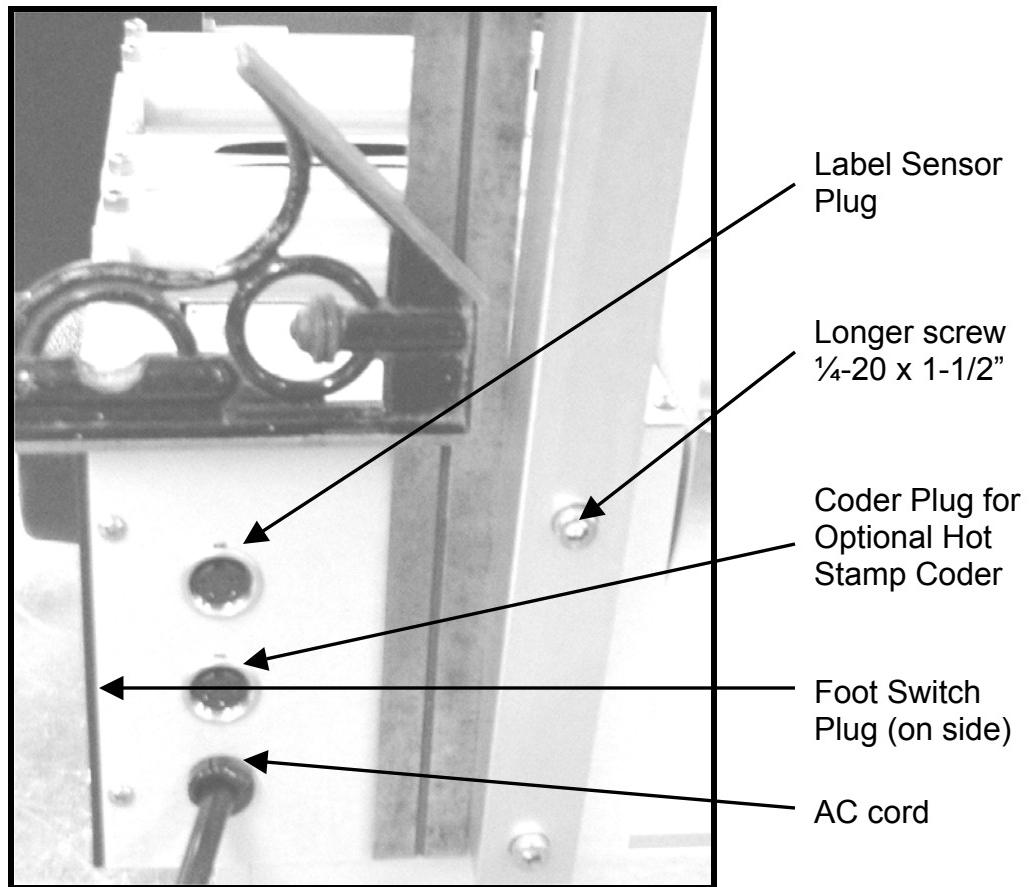


Fig 2

FUNCTION OF UNWIND ASSEMBLY

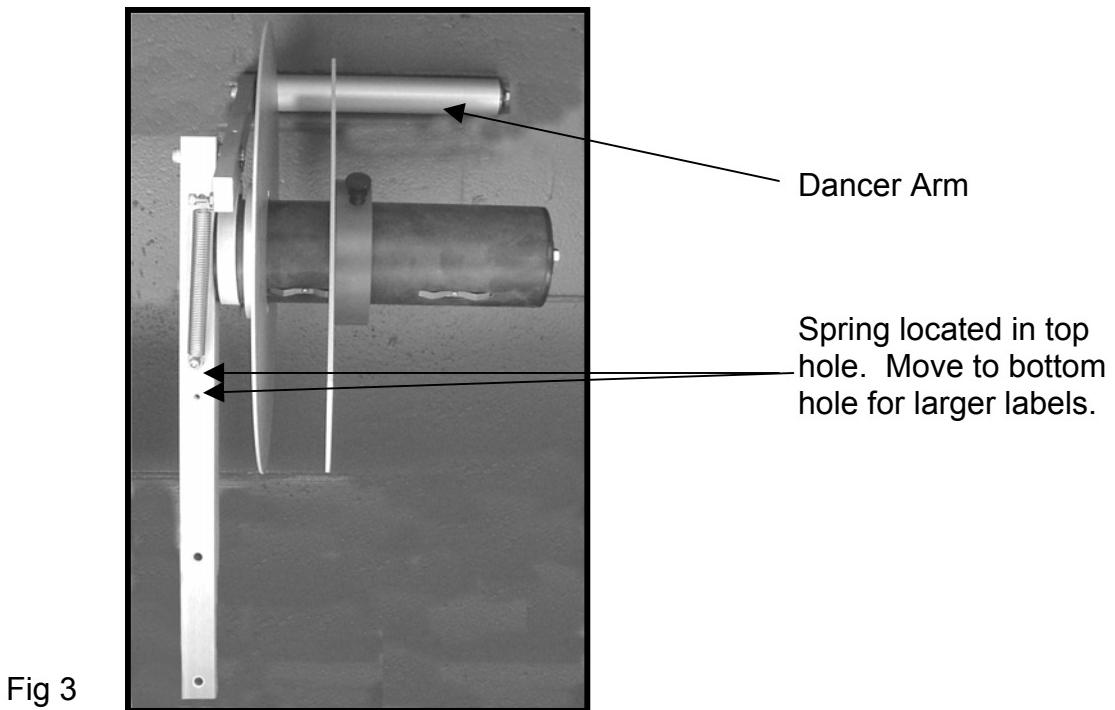
The unwind is simple, but important to the operation of the R-310 machine.

When the motor starts, the web and labels are pulled through the machine by the drive roller. The label stock pulls on the brake arm, releasing the brake, and allows the roll of labels to unwind. When the motor stops, the brake arm returns to the rest position. This movement tightens the brake band around the 3" diameter main unwind hub and the roll of labels stops unwinding.

The R-310 has a fixed speed, AC drive motor which transmits power to the drive roller. The AC drive is directly influenced by the load it is trying to pull. In this case, the load is the tension of the brake arm spring and the weight of the roll of labels. The brake arm spring shown below in Fig 3, should be fastened to the unwind assembly mounting bar in the tapped hole which provides the least amount of tension at the brake arm. (The hole closest to the hub.)

If the R-310 is dispensing a long label (10" for example), you may have to increase the tension on the brake arm spring (Move spring attachment point to lower hole - See Fig 3) to keep the brake arm from bottoming out.

The length and speed figures mentioned above are only examples. Your observation of the unwind operation will be the best indication of when a tension change may be needed.



WEBBING THE R-310

Place the roll of labels on the unwind spool. Install the label disc and while pressing it against the label reel, tighten thumbscrew. Remove enough labels so only backing paper is threaded from peeler plate back to rewind spool. Pull the web over the anti-stripper roller and down under the web guide shaft, between the web guides. Set the web guides so that the web is held with minimum side play but still moves freely. Pull the web around the peeler plate and the roller attached to the peeler assembly underneath. Wind the web over the top roller and between top and bottom roller and back under bottom roller to rewind spool.

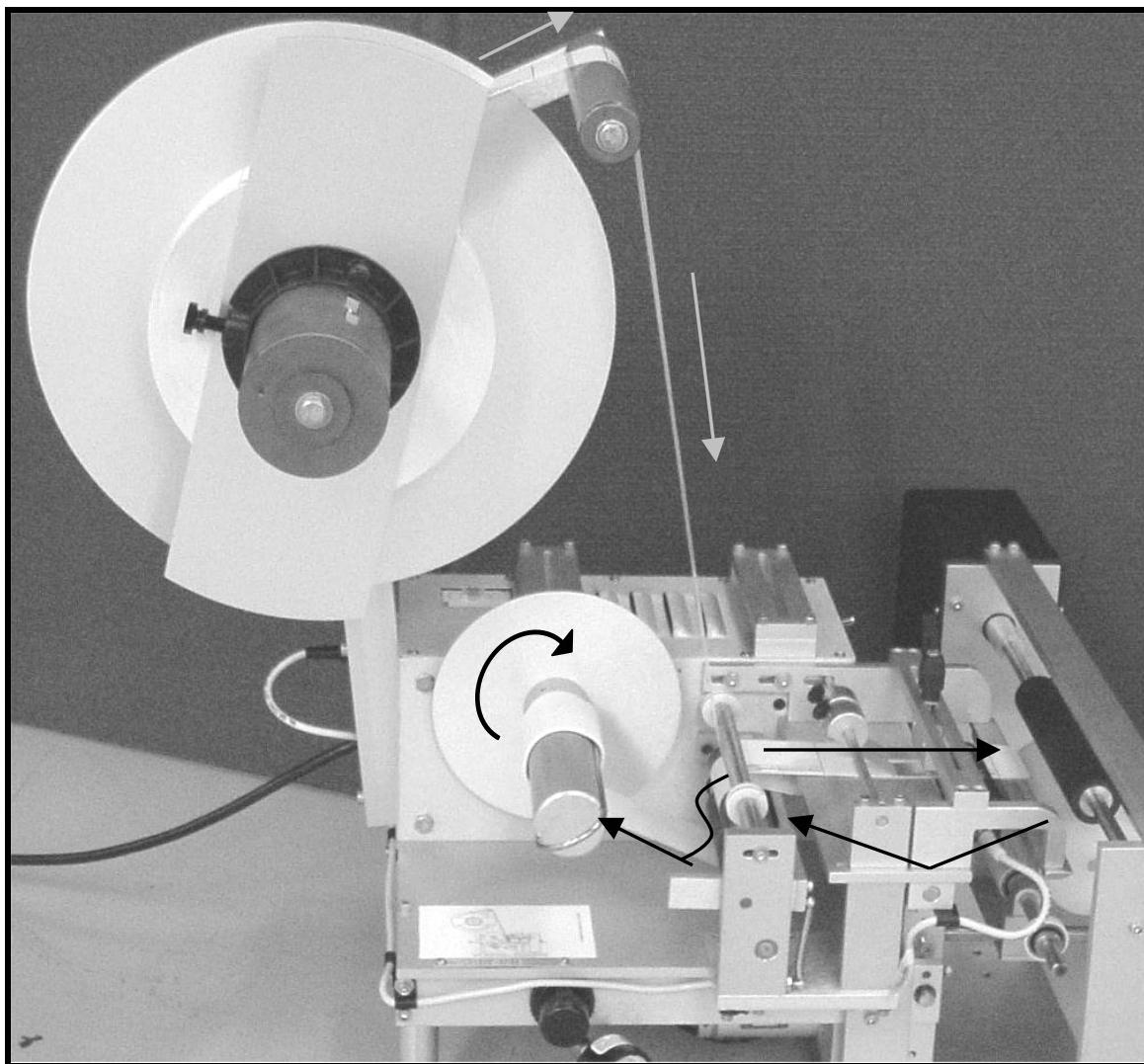


Fig 4

WASTE REMOVAL

To remove waste web, turn off the machine, and remove the waste web retention clip. Tear the web as shown in Fig 5. While holding the rewind backing plate, turn the whole waste web in the opposite the direction and pull.



Fig 5

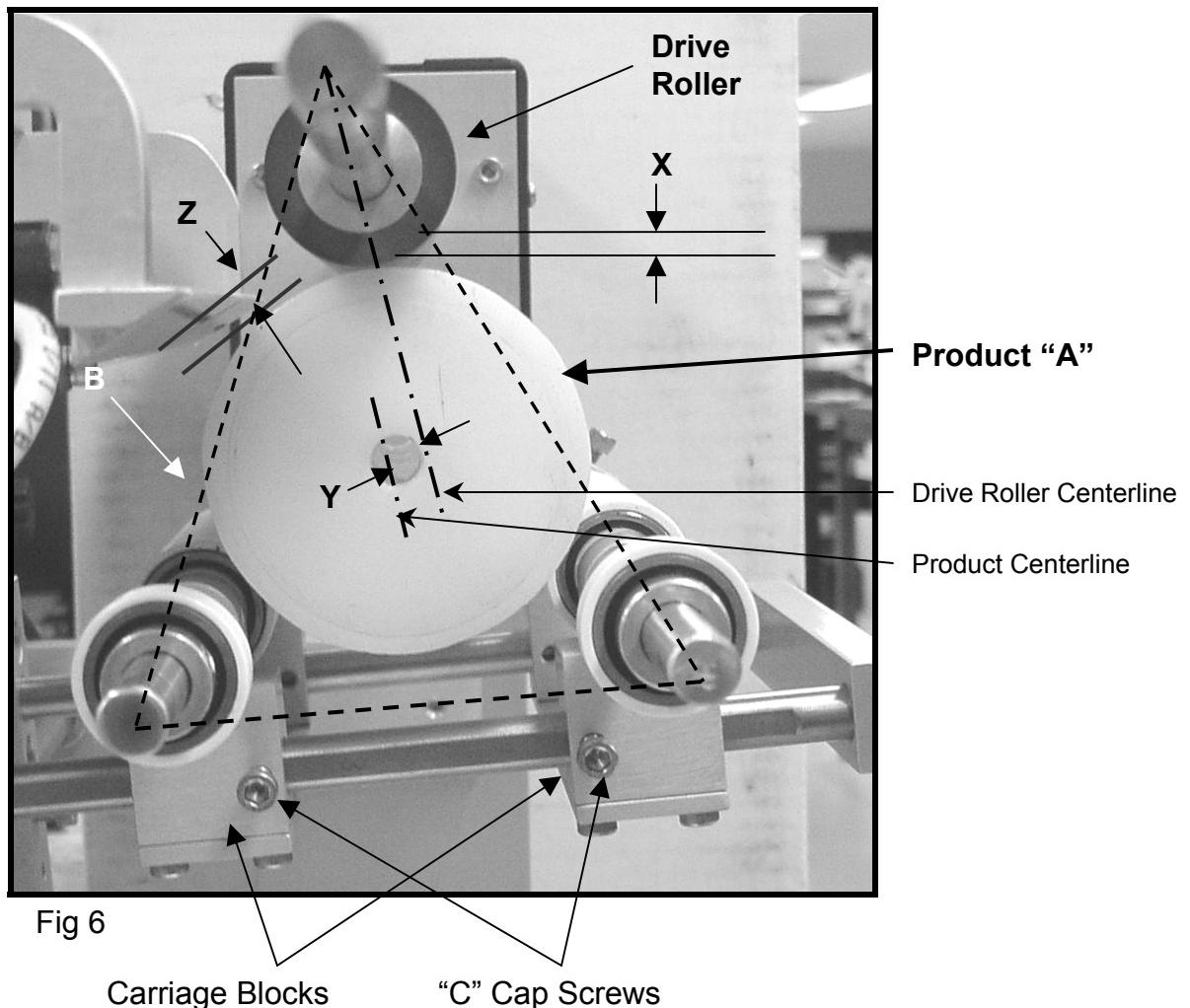
CARRIAGE ADJUSTMENT AND PRODUCT PLACEMENT

SET CARRIAGE AS FOLLOWS

1. The product centerline should be slightly behind drive roller centerline (a $1/32"$ or less) when carriage is up, as shown by 'Y' in Fig 6;
2. When product "A" is against drive roller, you should have a minimum $3/16"$ distance (see 'Z' Fig 6) between product and peeler plate for product to sit well down between carriage idler rollers (see 'B' Fig 6).

Use a 9/64 Allen wrench to loosen 4 cap screws "C" and relocate carriage blocks. Also keeps in mind that moving the lower carriage roller assembly forward or back in the actuator arm will affect values of 'Y' and 'Z'. Refer to Fig 7 on page 13 for this adjustment. You will have achieved close to equal spacing if roller centers visually form a triangle as shown by dotted lines in Fig 6.

After verifying that a product works well at a given setting, it would be a good idea to mark the rods where carriage blocks are set.



HORIZONTAL CARRIAGE ADJUSTMENT

Using adjusting screws (see 'D' Fig 7), you may slide "Standard Carriage Assembly" left or right to improve or change alignment of product with label. When making this adjustment, you should check position of product drive roller (see Fig 6 previous page) to be sure it is still located to properly roll down label. To adjust drive roller, loosen the set screws (see 'E' Fig 7) in the roller and move left or right as required.

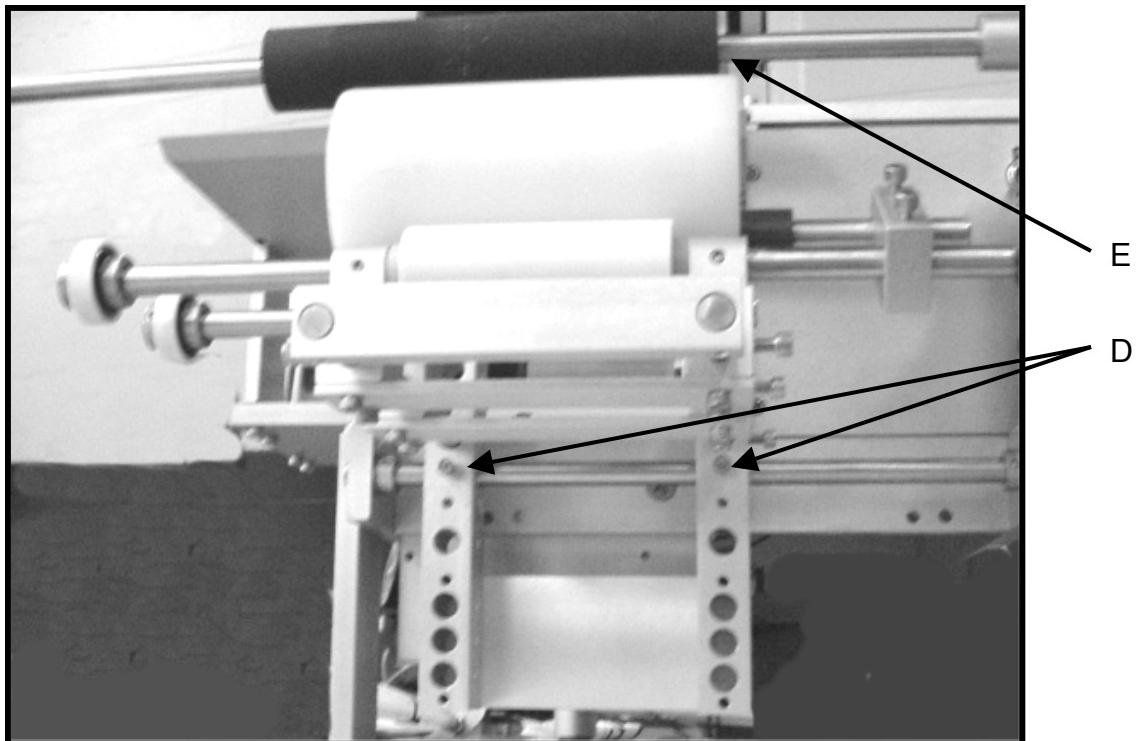


Fig 7

VERTICAL CARRIAGE ADJUSTMENT

This adjustment provides a means to relocate the lower carriage roller assembly into one of several pair of holes in the actuator arm, as shown by dotted lines in Fig 8. The purpose is, to minimize the distance the product has to travel to contact the drive roller (see 'X' Fig 6) page 12). To adjust the assembly loosen the two 8-32 screws (see 'E' Fig 8 & Fig 9) on side of actuator arms and relocate roller assembly. Use 8-32 screws 'F' to adjust bottle stop 'G' to best position the label onto the product. The view of the carriage is set to run a Fasson chart #4 (left side off first) die cut label.

Use one
of several
pairs of
holes

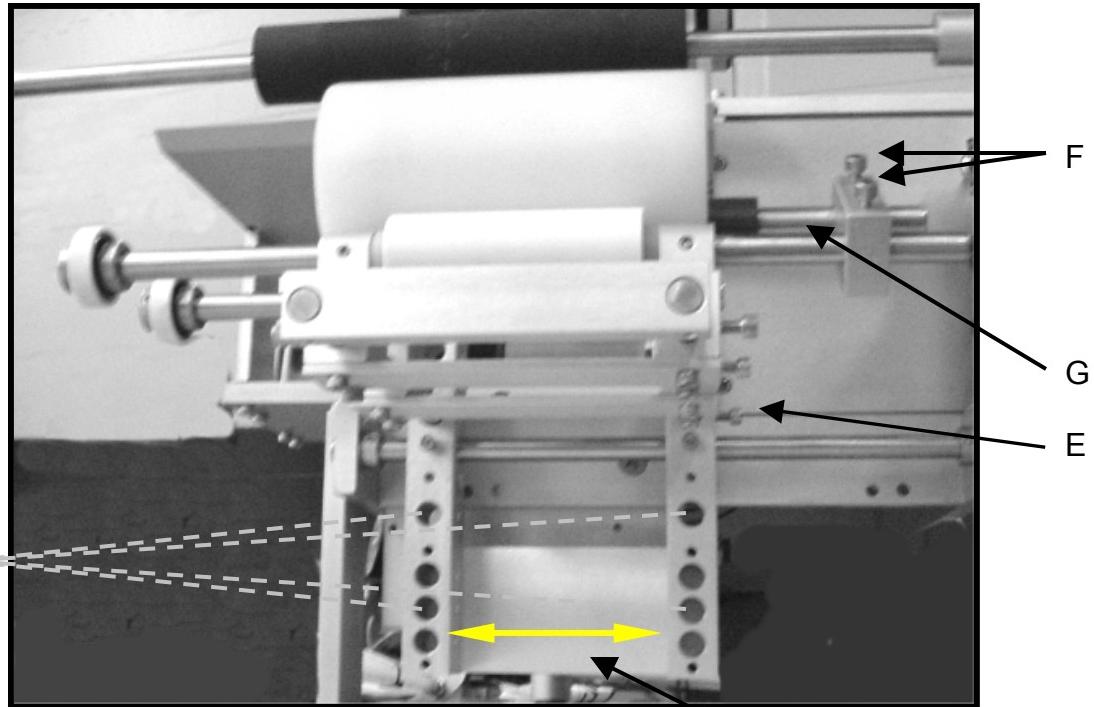
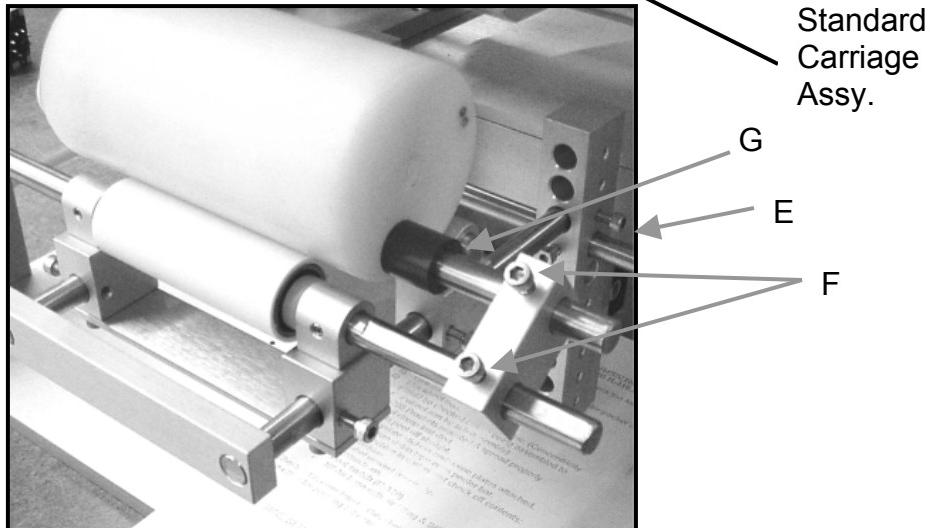


Fig 8

Fig 9



CARRIAGE ADJUSTMENT FOR TAPERED PRODUCTS

A tapered product can be labeled on the R-310 by adjusting the carriage as follows.

1. Remove the tie bars on the bottom of the carriage assembly (see 'H' Fig. 10).
There are 8 screws as shown in (see 'J' Fig 10).

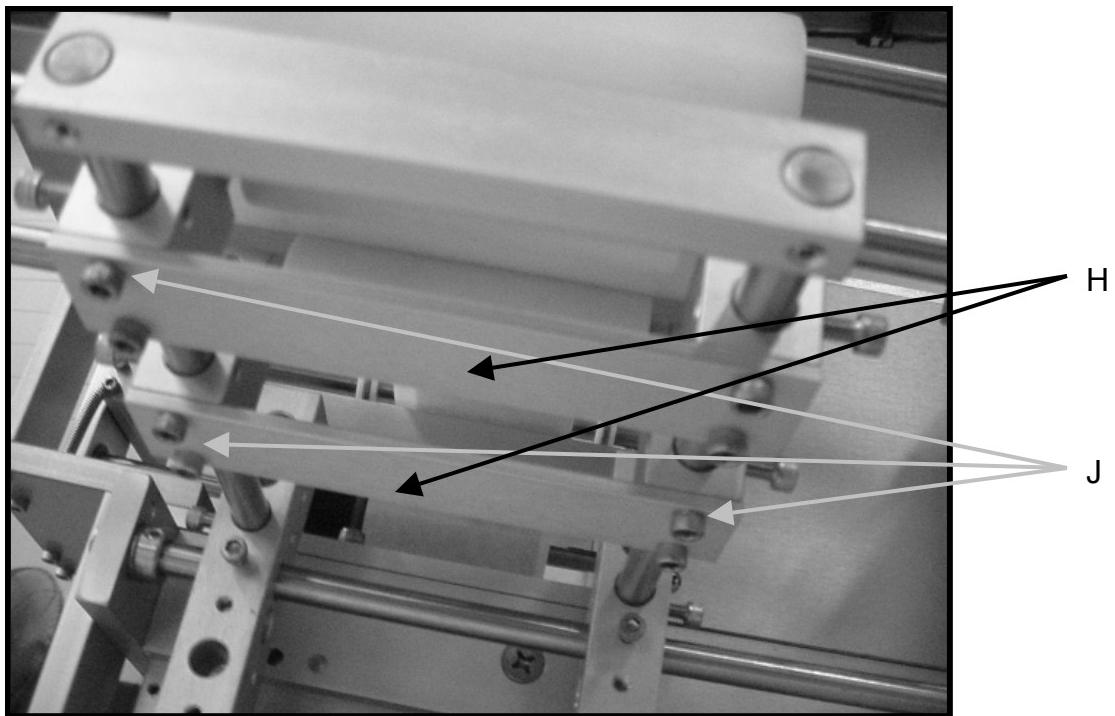


Fig 10

2. Loosen the screws on the carriage blocks (see 'K' Fig 10a.)
3. Separate or move closer the rollers on one or both sides of the carriage depending on the taper of the product.

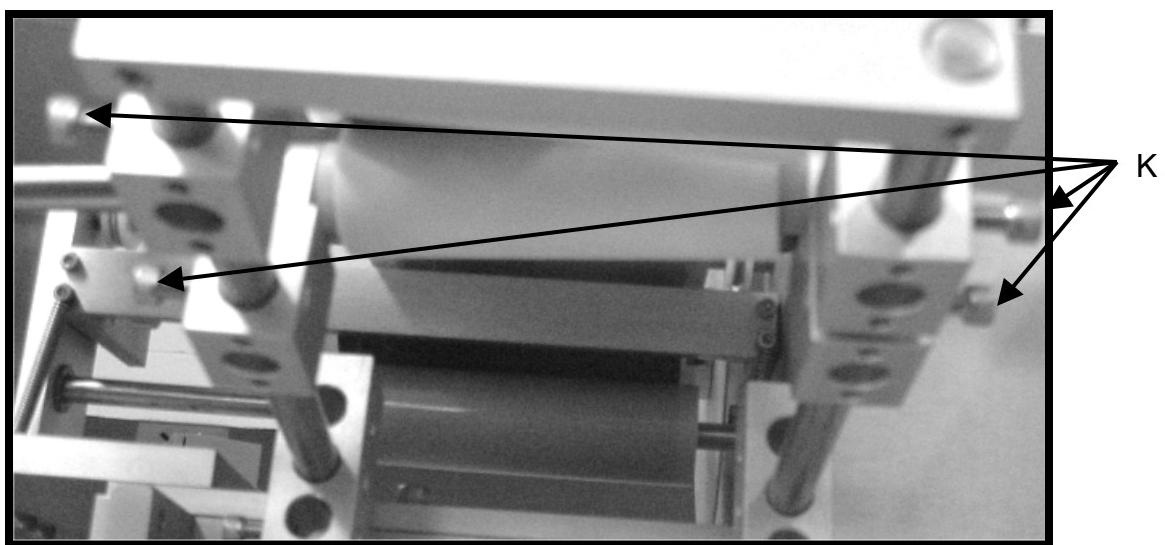
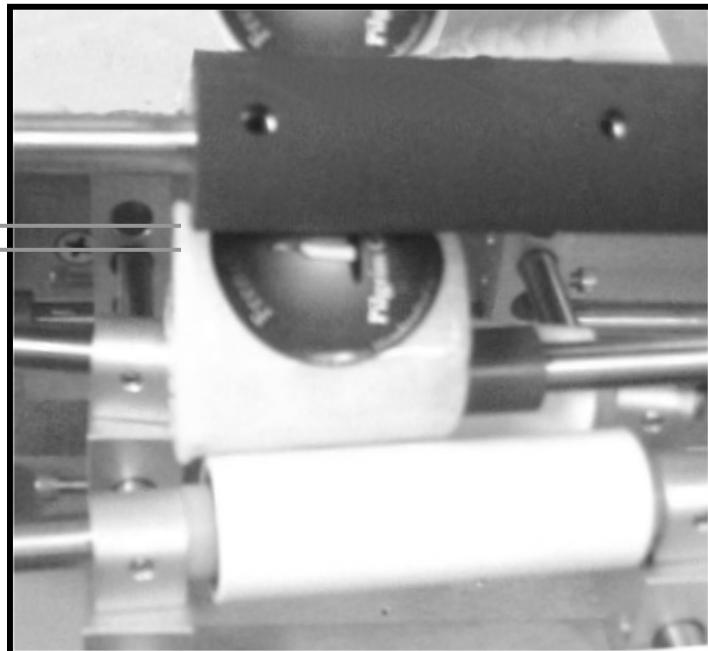


Fig 10a

4. Place a product on the rollers and move the product and roller assembly so the product contacts the drive roll evenly.
5. Position the whole carriage at an angle (see Fig 10b). This is so the label starts onto the product at an angle. This may seem contradictory, but the label must start at an angle so it ends up looking straight on the product.

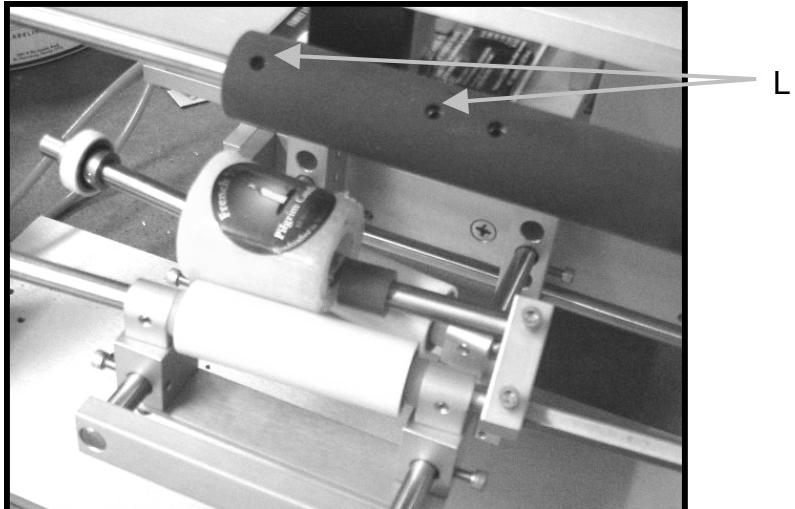
Note: Tapered Product must contact Drive roll parallel for straight label transfer.

Fig 10b



The Drive roller may need to be moved to allow the product contact the roller parallel by loosening the 4 set screws (see 'L' Fig 10c). Also the bottle stop was positioned so the product rests against it for consistent label placement.

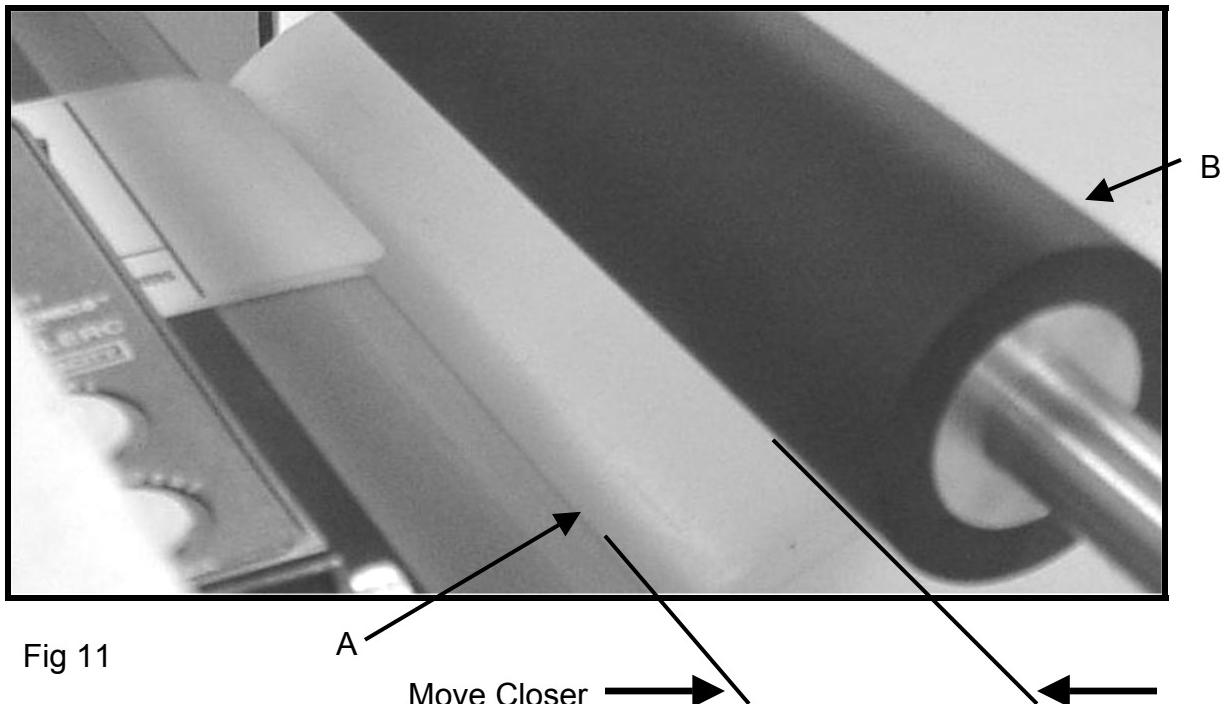
Fig 10c



Snug all screws and label a product or two and examine it for wrinkles or position. Tighten all screws when adjustments are finished.

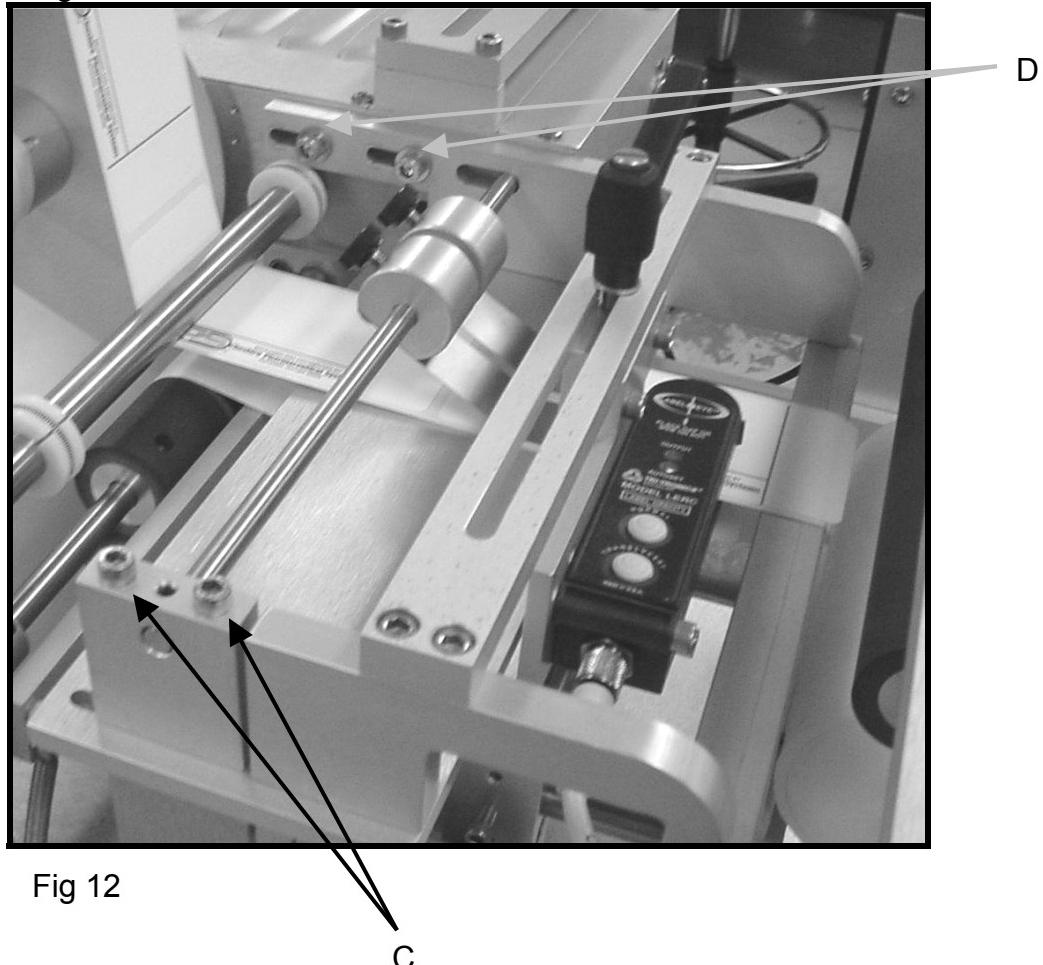
PEELER PLATE ADJUSTMENT

The peeler plate assembly may require adjustment with the change of label length or product diameter. A short label with a small diameter product would require the edge (see 'A' Fig 11) of the peeler plate to be closer to the Product Drive Roller 'B' than a long label with a larger diameter product and will have to be adjusted accordingly.



ADJUST PEELER PLATE AS FOLLOWS

1. Using the provided 9/64" Allen wrench just loosen – **DO NOT REMOVE** - the two 8-32 SHCS located on the left side of the peeler assy. (see “C” in Fig 12)
2. Using a 5/32" Allen wrench just loosen – **DO NOT REMOVE** - the two 10-32 SHCS located to the right of the peeler assembly (see “D” in Fig 12).
3. Adjust the peeler plate.
4. Re-tighten all screws.



SECTION 3 OPERATION

TRI-TRONICS OPTICAL LABEL SENSOR

Normal Label Opacity Autoset Button:

This category includes most paper or metallized film labels adhering to paper or transparent backing materials.

To implement the one button Autoset routine, utilize the external alignment guides to position the gap between labels in line with the dot shown in the center of the detection zone (see 'A' Fig 13). Then push the Autoset button marked "Normal".

Translucent Label Opacity Autoset Button:

This category includes translucent labels adhering to transparent backing materials.

First utilize the external alignment guides to position the gap between labels in line with the dot shown in the center of the detection zone. Then push the Autoset button marked "Translucent". The next step is to move the web so that the translucent label goes in and out of the light beam. The red led output indicator should go on when the label passes through the detection zone.

Note: The status of the red led and output transistors can be inverted by pressing both buttons simultaneously. When the output status had been inverted, the red led and the output transistors will turn off when the label comes into view.

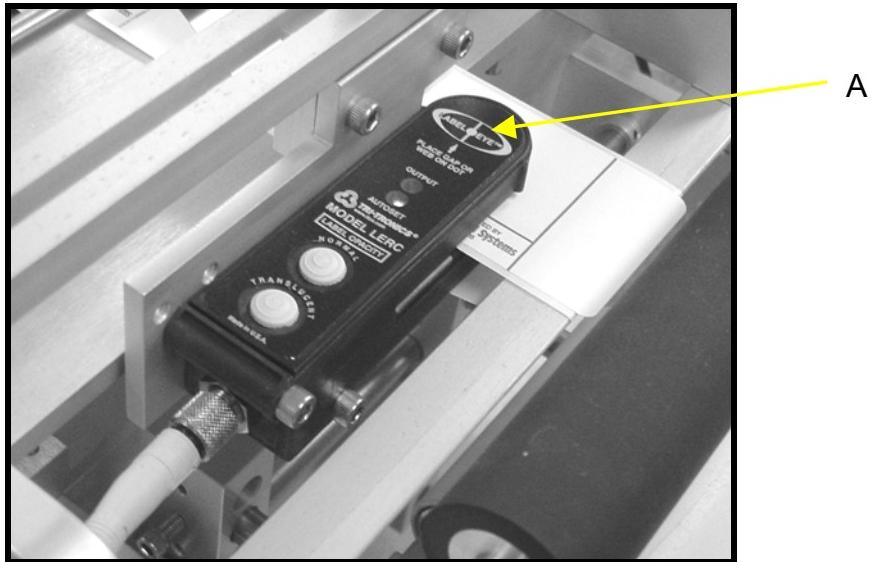


Fig13

OPTIONAL LION SENSOR FOR CLEAR LABELS

Important:

- Web must remain in contact with mounting plate.
- Label must pass under the sensor indicator
- Small labels should be centered under sensor.
- When properly setup, the lights will move between WEB and LABEL. The lights in the “X” region should only light briefly during the transition between WEB and LABEL.

Basic (Low Gain) Setup (effective for 90% of labels):

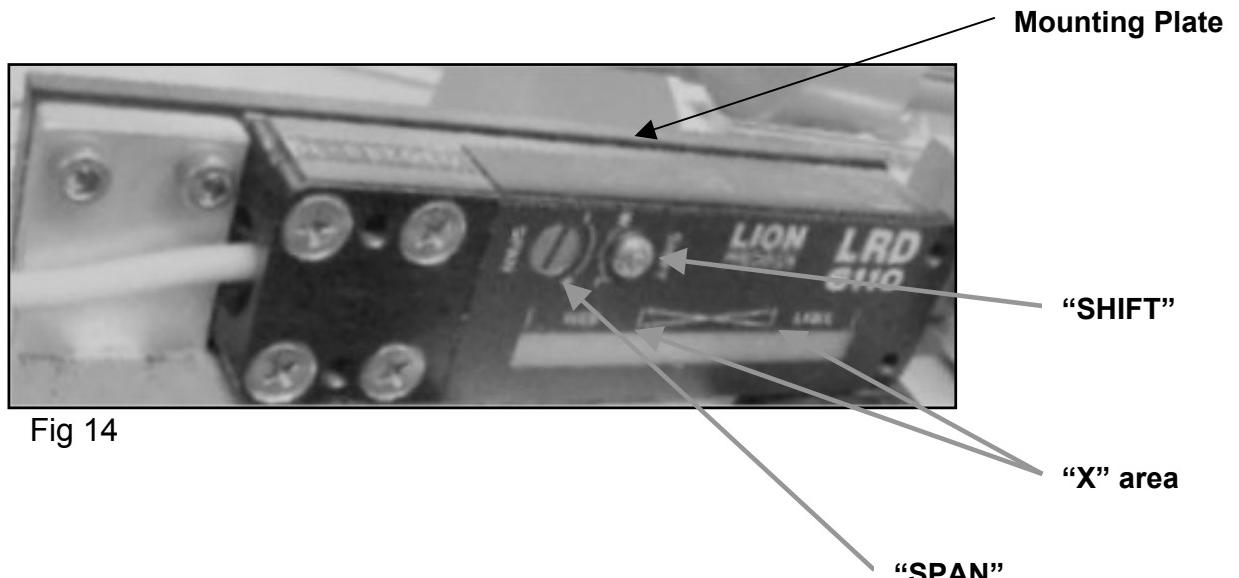
1. Adjust SPAN to minimum (four turns counter-clockwise)
2. While moving labels through the sensor.
 - a. Adjust shift toward L (LABEL) until the last web light does NOT light.
 - b. Adjust shift toward W (WEB) until the last web light DOES light.
3. Setup complete.
4. If there is any false triggering, missed labels, or lights in the “X” region except during transition, change to medium gain setup. (See Fig 14)

Basic Gain Setup:

1. Adjust SPAN to mid-point (four turns counter-clockwise, two rotation clockwise)
2. Repeat steps 2 & 3 from Basic setup above.
3. If there is any false triggering, missed labels, or lights in the “X” region except during transition, change to high gain setup. (See Fig 14)

High Gain Setup:

1. Adjust SPAN to maximum (four turns clockwise)
2. Repeat steps 2 & 3 from Basic setup above. (See Fig 14)



OFF DELAY

The off delay dial is located on the front panel, below the on/off switch (see 'A' Fig 15). When the machine is cycled, the label sensor sends a signal when a gap between the labels on the web is detected telling the machine to stop. Off delay is used to adjust where the label stops. To adjust where the label stops, cycle the machine and adjust the off delay until the label stops at the desired distance from the peeler edge.



Fig 15

TIMER ADJUSTMENT

Select the product to be labeled and place it on the white carriage rollers. Move the product to the right against the bottle stop, **take your hands away from carriage area** then depress the foot switch. After the carriage drops back down, remove the product and inspect the label for proper application. If label placement is correct, continue this procedure and occasionally check label. Minor adjustments to the machine may increase productivity. For example, the control knob on top near the back of the dispenser adjusts the time the product is in contact with the drive roller. This allows the product to drop as soon as label is applied. Doing so will allow an experience user to label more products during a period of time. Once the machine is set up properly, the operator's dexterity is the key to speed. If you make machine adjustments and are not sure of their effect, do only one adjustment at a time in small increments.

Timer:

The timer adjustment dial on top of the applier ("J", Fig 16), allows you to adjust the time that the carriage is held up to apply a label. For long labels the carriage assembly needs to stay up longer to insure the label wraps all the way around the product. Turn dial clockwise to increase time the carriage stays up. Turn counterclockwise to decrease the time.

Note: The smaller knobs on the timer are not used at all.

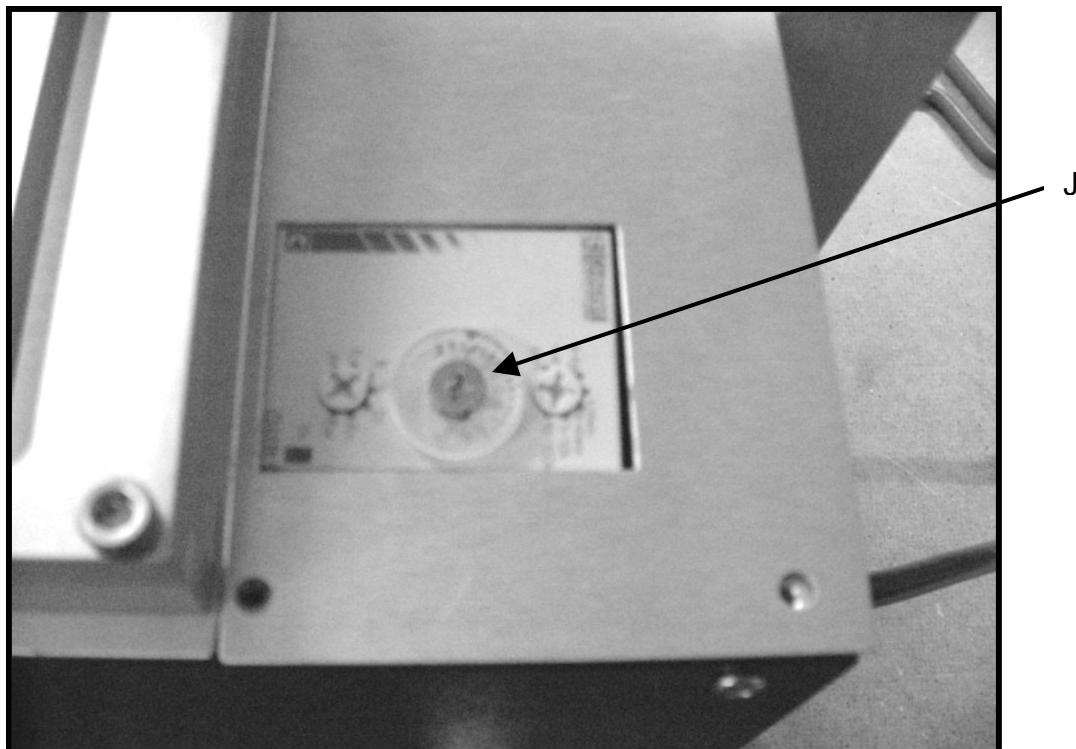


Fig 16

AIR ASSEMBLY ADJUSTMENTS

Turn your attention to the underneath of the R-310. These two valves on the air regulator control the speed at which the carriage rises to label the product and falls back to rest. Each can be controlled individually as shown below (see Fig 17).

Turn valve 'A' **clockwise** to **slow** the speed that the carriage rises.

Turn valve 'A' **countrerclockwise** to **increase** the speed the carriage rises.

Turn valve 'B' **clockwise** to **slow** the rate at which the carriage falls.

Turn valve 'B' **countrerclockwise** to **increase** rate carriage falls.

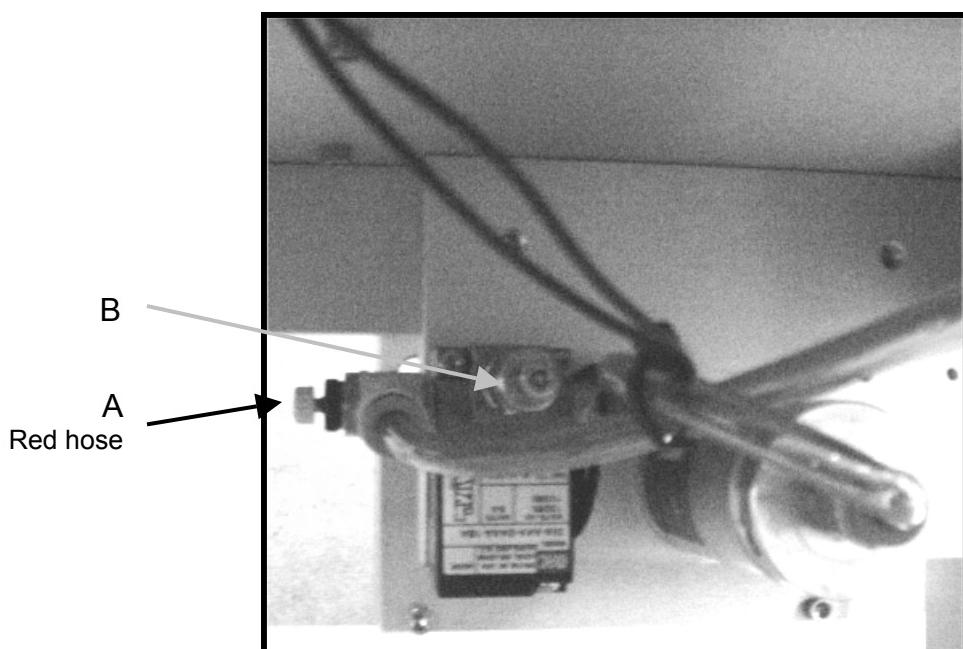


Fig 17 (underneath the R-310)

AIR REGULATOR

Turn your attention to the side where the air regulator is mounted (see Fig 18). The Air Regulator is used to raise or lower the air pressure to the machine. This will allow the R-310 to run connected to virtually any clean air source depending on how much Air pressure is produced by your compressor. It is also used to stay within the recommend air pressure of the machine 20-40PSI, 5CFM.

Note: The R-310 is designed to label a variety of items from very small up to and including a Full Gallon jug. The Air regulator would also be used to increase air pressure to raise a heavy Full gallon jug. By the same token if a small vial were being labeled, not nearly as much air pressure would be needed to lift an item that weighed a few ounces or less. You want the carriage to rise smoothly and stay engage with the driver roller to insure proper labeling. Then again you don't want it to rise so fast that it bang's against the driver roller and cause damage to your product or the machine.

The Air pressure takes a few seconds to increase so don't turn the knob 'F' too much. Also a small amount of turn may increase the pressure a lot.

Turn the regulator knob 'F' slowly a $\frac{1}{4}$ turn and pause a few seconds watching the gauge as it rises. Try to label the product and then repeat as necessary. Turning the regulator a small amount then pause.

Adjust knob 'F' clockwise to increase air pressure, counterclockwise to decrease it, watching the Air pressure gauge 'E'.

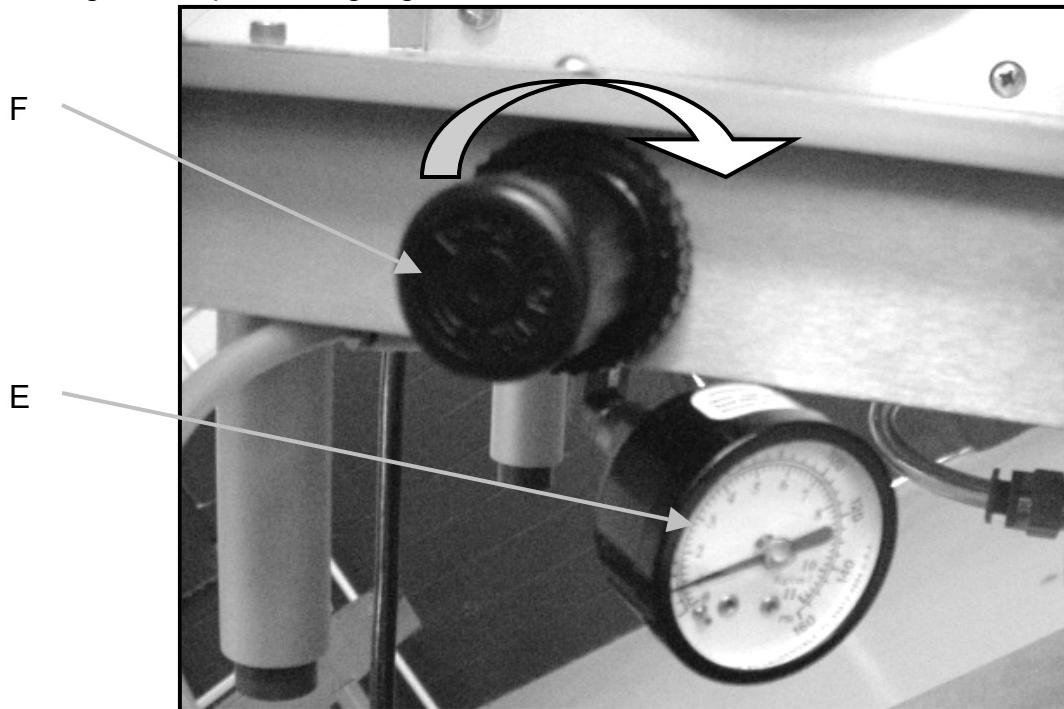


Fig 18

SECTION 4 MAINTENANCE

GENERAL MAINTENANCE

Drive rolls:

The drive rolls must be kept clean. Wash with lacquer thinner or other recommended solvents to remove gum buildup or small bits of labels adhering to rollers. **Never use razor blade or sharp instruments on rollers.** Damaged or gummy rollers will cause inconsistencies in label application. If they are damaged, replace them. Part Number "SRL-500-3403875" both rollers are the same.

Lubrication:

The only part in the applier that requires lubrication are the 2 main shafts (drive and rewind) that rotate in bushings. These bushings should be oiled once every 2 or 3 years. Remove cover to oil internal bushings as shown below in Fig 19b.

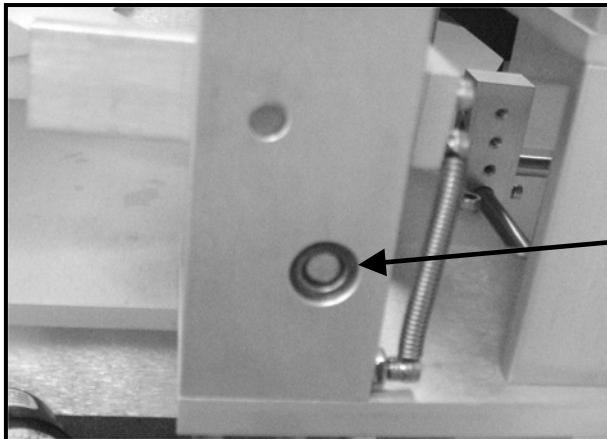


Fig 19a

Oil here

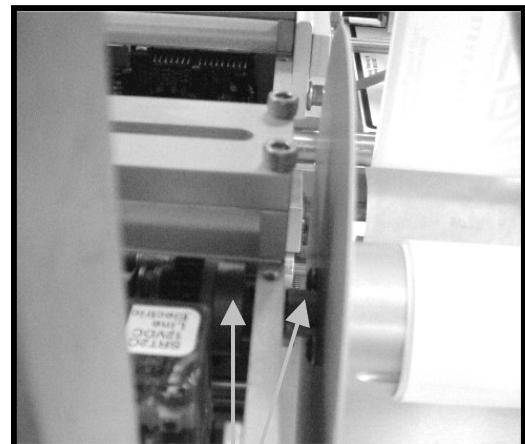


Fig 19b

Oil here



Fig 19c

SECTION 5 RECOMMENDED SPARE PARTS

Part Number	Description
100099	VALVE, 120VAC 3WY MAC AIR
100303	CYLINDER, 1" SPRING RETURN AIR
200009	RELAY, 12VDC 10AMP DPDT
200044	FUSE, AGC 5 A
200045	FUSE, AGC 7 A (USED W/ CODER)
200109	SWITCH, MICRO (STARWHEEL) (IF EQUIPPED)
200111	TRANSFORMER, 110VAC TO 15VAC
200113	TIMER, (CROUZET)
200198	MODULE, POWER
300050-2	MOTOR, CW W/BRAKE
300051-2	MOTOR, CCW WO/BRAKE (PRODUCT DRIVE)
300055-1	FAN, #300050 MOTOR
300060-1	FAN, #300051 MOTOR
420210	UNWIND SPRING, 1/2" X 4" EXTENSION
600300	UHMW, TAPE, 1" X 50' ROLL
820000	THUMBSCREW, 1" BLACK NYLON
200090B	ASSEMBLY, R-310 FOOT SWITCH
200374-1	SENSOR, LABEL EYE(TRI-TRONICS)
200376B	ASSY. CABLE W/4 PIN M. AMPHENOL
210131B	ASS'Y, CLEAR/FOIL LABEL SENSOR (IF EQUIPPED)
420200-01.60	SPRING, EXTENSION
L-128-C-A	CLIP, (6-1/2 WEB) RETENTION
L-129-S	STARWHEEL, LABEL SENSING (IF EQUIPPED)
SRL-500-3303875	ROLLER, 3-7/8" PRODUCT DRIVE
SRL-500-3306000	ROLLER, PROD. DRIVE 6" LONG
SRL-500-3403875	ROLLER, 3-7/8" UPPER IDLER

SECTION 6 DRAWINGS AND BILL OF MATERIALS

MAIN ASSEMBLY

See Drawing 310-I-00H

AIR CYLINDER MOUNTING ASSEMBLY

See Drawing 310-I-10

FRONT PANEL ASSEMBLY

See Drawing 310-I-20F

REGULATOR ASSEMBLY

See Drawing 310-I-30

LABEL SENSOR/PEELER ASSEMBLY

See Drawing 310-I-40F

OPTIONAL STARWHEEL /PEELER ASSEMBLY

See Drawing 310-I-41F

UPPER IDLER ROLL ASSEMBLY

See Drawing 310-I-50E

STANDARD CARRIAGE ASSEMBLY

See Drawing 310-I-62

13" UNWIND ASSEMBLY

See Drawing UWA-13R-I-00

POWER MODULE

See Drawing L15-D-02

DIMENSIONAL DIAGRAM

See Drawing 310-F-00F

WEBBING DIAGRAM (OPTICAL)

See Drawing 310-W-00F

WEBBING DIAGRAM (OPTIONAL STARWHEEL)

See Drawing 310-W-00F

ELECTRICAL DIAGRAM

See Drawing 310-E-00H

TECHNICAL SUPPORT

When calling for Technical Support:

Have your Model #: R-310H

And the Serial Number ready (located on main base plate on the same side where the Air Regulator is).

Email: fjones@universal1.com

Web Site: <http://www.universal1.com>

Bill of Material

MAIN ASSEMBLY



310-I-00H

MACHINE: R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	SRL-500-42	BRACKET, OUTER BEARING	1
02	L-144-M	BLOCK, 3/8" BEARING	1
03	400016	BEARING, 3/8" SEALED	1
04**	SRL-500-3306000	ROLLER, PROD. DRIVE 6" LONG	1
05	SRL-500-04-B	SHAFT, 3/8 X 15.5"	1
06	SRL-500-03	SHAFT, PIVOT	1
07*	310-I-62	ASSEMBLY, STANDARD CARRIAGE	1
08	SRL-500-43	BRACKET, MACHINE SUPPORT	1
09	SRL-500-40	PLATE, BASE	1
10	SRL-500-23	BAR, LOWER TIE	2
11	SC-006	COLLAR, SET .376 X .62 X .250	4
12	430380	BUSHING,S 500 X 375 X 375	4
13	SRL-500-41	BRACKET, MOTOR MOUNT	1
14*	310-I-30	ASSEMBLY, AIR REGULATOR	1
15*	310-I-10	ASSEMBLY, AIR CYLINDER MNTG.	1
16	SRL-500-60	BAR,OUTSIDE TIE	1
17	SRL-500-61	BAR, INSIDE TIE	1
18	SRL-500-08	COLLAR, PRODUCT DRIVE SHAFT	1
19	300051-2	MOTOR, CCW WO/BRAKE	1
20	300060-1	FAN, #300051-2 MOTOR	1
21	SRL-500-29	COVER, MOTOR	1
22	MD-724-1	SUPPORT, REAR COVER	1
23	MD-723	SUPPORT, TOP COVER	1
24	MD-724	SUPPORT, FRONT COVER	1
25	200021	STRIP, 8 TERMINAL EURO 40.208	1
26	200111	TRANSFORMER, 110VAC TO 15VAC	1
27	MD-700-1	PLATE, BASE	1
28	SRL-500-44	SUPPORT, TOP	1
29*	310-I-20F	ASSEMBLY, FRONT PANEL	1
30	810075	PIN, 1/4 X 1 DOWEL	1
31	MD-731	STAND-OFF, MOTOR	3
32*	310-I-40F	ASSEMBLY, PEELER/LABEL SENSOR	1
32***	310-I-41F	ASSEMBLY, OPTIONAL STARWHEEL/PEELER	1
33	MD-730-1W	SHAFT, BOTTOM DRIVE ROLL	1
34	SRL-500-3403875	ROLLER, 3-7/8" UPPER IDLER	1
35	420200-01.60	SPRING, EXTENSION	2
36	430385	BUSHING,S 500 X 375 X 500	1
37	MD-744-W	PLATE, EXTENSION	1
38	JL-200-37-5A	ASSEMBLY. REWIND SLIP CLUTCH	1
39	MD-728-1	ASSEMBLY, DRIVE SPROCKET	1
40	410000-13.25	ASSEMBLY. CHAIN,#25 LINK X 13-1/4"	1
41	MD-746-1	SPROCKET, TENSION	1
42	JL-200-42	SPROCKET, REWIND CLUTCH	1
43	300050-2	MOTOR, CW W/BRAKE	1
44	300055-1	FAN, #300050-2 MOTOR	1
45	SRL-500-59-1	LEG, STAND-OFF 4"	2

Bill of Material

MAIN ASSEMBLY



310-I-00H

MACHINE: R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
46	SRL-500-58	FOOT, EQUIPMENT (PACK OF 2)>>	2
47	MD-746-3	BLOCK, PIVOT	1
48	MD-700-2	PLATE, VERTICAL	1
49	430240	BUSHING, 500 X 375 X 375	1
50	MD-743-W	SHAFT, UPPER IDLER	1
51	700025	GUIDE, 1/2" SPLIT NYLON WEB>>	2
52	PS-3018	PIN, 1/4"OD X 5/8" DOWEL	2
53*	310-I-50E	ASSEMBLY, UPPER IDLER ROLL	1
54	L-172-09	WASHER, UHMW 032 X 257 X 500	2
55	MD-708-W	BAR, OUTBOARD SUPPORT	1
56	L-128-C-A	CLIP, (6-1/2 WEB) RETENTION	1
57	L-128-D-A	SPOOL, (6-1/2 WEB) REWIND	1
58	L-148-M	PLATE, REWIND BACKING	1
59	SRL-500-71	SHAFT, REWIND	1
60	200011	SOCKET, 10 AMP RELAY	1
61	200009	RELAY, 12VDC 10AMP DPDT	1
62	MD-722	BRACKET, RELAY	1
63	L-172-03	WASHER, UHMW 062 X 380 X 625	2
64	MD-732	BRACKET, UNWIND MOUNTING	1
65	MD-764	COVER, REAR	1
66	MD-726-1	SUPPORT, REWIND SPINDLE	1
67	400054	WASHER, 3/8" WAVE SPRING	2
68	400010	RETAINER, 3/8" HARDENED BRNG.	2
69	400009	BEARING, 3/8" THRUST	1
70	MD-719-1A	COVER, TOP	1
71	MD-733	SPACER, MOUNTING BAR	4
72	MD-734	BAR, HORIZONTAL MOUNTING	2
73*	UWA-13R-I-00	ASSEMBLY, R. H. 13" UNWIND	1
74	200015	AMPHENOL, 4 PIN FEMALE	1
75	200017	AMPHENOL, 5 PIN (FEMALE)	1
76	200036	CORD, 18/3 8FT. SJT POWER	1
77	200034	RELIEF, 1/16" STRAIN	1
78	200113	TIMER, (CROUZET)	1
79	200114	SOCKET, SYRELEC TIMER MNTG.	1
80	MD-747	BLOCK, SYRELAC TIMER SUPPORT	1
81	MD-725	SUPPORT, COVER	1
82	MD-718-1	COVER, VENTED SIDE	2
83	200013	AMPHENOL, 3 PIN (FEMALE)	1
84	200090B	ASSEMBLY, R-310 FOOT SWITCH	1
85	L-172-21	WASHER, NYLON .125 X .194 X .375	4

Bill of Material

MAIN ASSEMBLY



310-I-00H

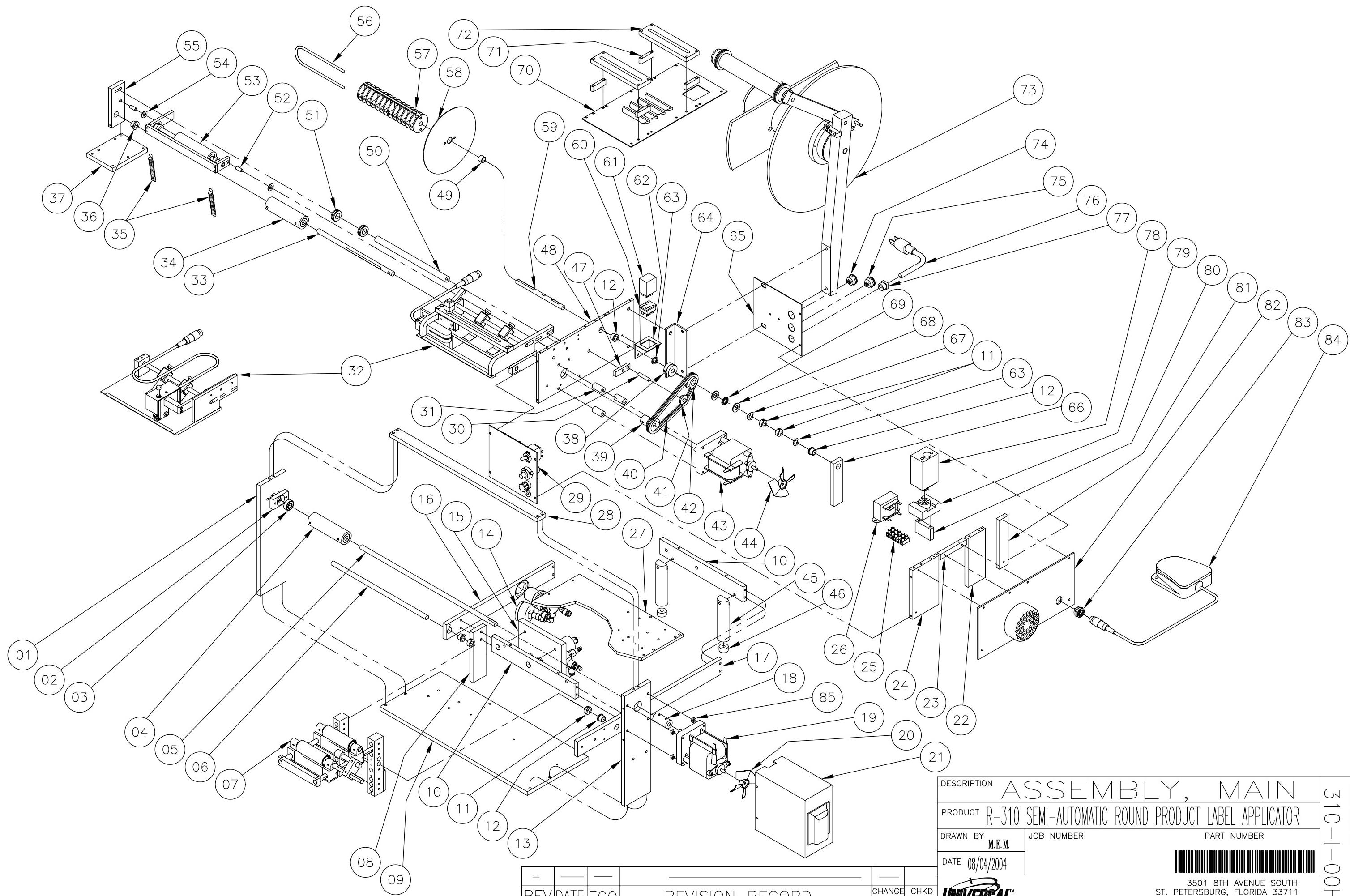
MACHINE: R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
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* SEE DRAWING

** SRL-500-3306000 IS A STANDARD 6" ROLLER
FOR CUSTOM LENGTH CHANGE LAST 5 DIGITS
I.E. 4-3/8 = 04375

*** OPTIONAL

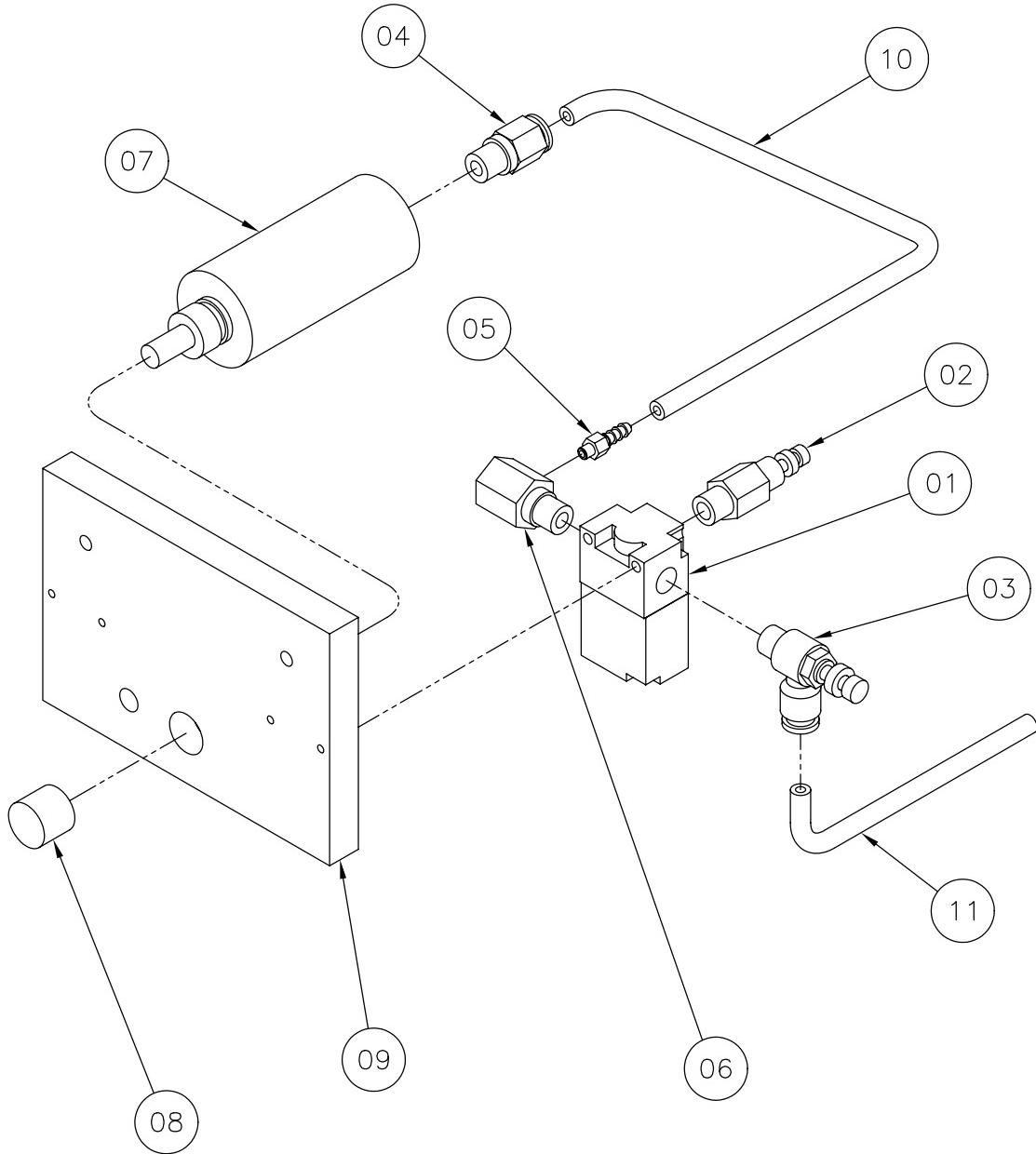


Bill of Material

AIR CYLINDER MOUNTING ASSEMBLY

R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	100099	VALVE, 120VAC 3WY MAC AIR	1
02	100108	FTNG, MINI NEEDLE VALVE	1
03	100109	VALVE, 1/4 x 1/8 METER-IN	1
04	100211	FTNG, 1/8 TO 1/4 STRT CONN.	1
05	100224	FTNG, 10-32M TO 1/4 BARB	1
06	100226	FTNG, 1/8M TO 10-32F REDUCER	1
07	100303	CYLINDER, 1" SPRING RETURN AIR	1
08	SRL-500-12A	GUARD, AIR CYLINDER	1
09	SRL-500-19	PLATE, AIR CYLINDER MOUNTING	1
10	100430-9.125	AIRLINE, 1/4" X 9-1/8" BLUE	1
11	100425-7.00	AIRLINE, 1/4" X 7" RED	1



DESCRIPTION	ASSEMBLY, AIR CYLINDER MOUNTING		PART NUMBER
PRODUCT	R-310 SEMI-AUTOMATIC ROUND PRODUCT LABELER		310-1-10
DRAWN BY	P.M.H.	JOB NUMBER	
DATE	09/09/2005		
 UNIVERSAL TM LABELING SYSTEMS INC.			 3501 8TH AVENUE SOUTH ST. PETERSBURG, FLORIDA 33711 TEL. (727) 327-2123

Bill of Material

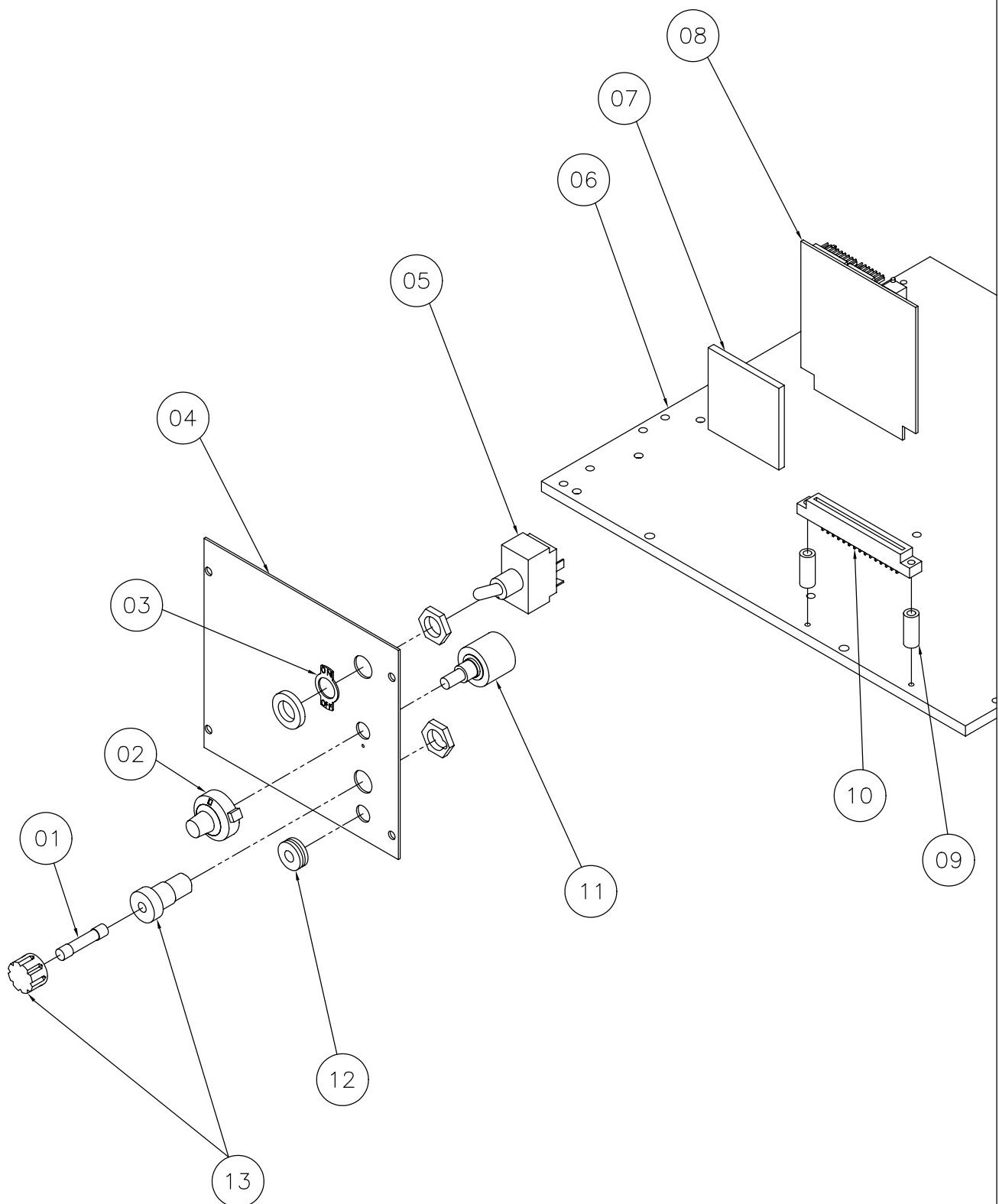
FRONT PANEL ASSEMBLY



310-I-20F

MACHINE: R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	200044	FUSE, AGC 5 A	1
02	200192-1	DIAL, 10 TURN POT (H-22-6A)	1
03	200059	PLATE, ON/OFF SWITCH	1
04	MD-763	COVER, FRONT	1
05	200030	SWITCH, DPST TOGGLE	1
06	MD-700-1	PLATE, BASE	1
07	600345A	RUBBER, CIRCUIT CARD BACKING	1
08	200198	MODULE, POWER	1
09	200175	SPACER, #6 X .75 NYLON	2
10	200022	CONNECTOR, 15 PIN EDGE	1
11	200216	POT, 5K OHM 3-TURN	1
12	200001	GROMMET, 1/16" X 1/4"	1
13	200005	HOLDER, PANEL MOUNT FUSE	1



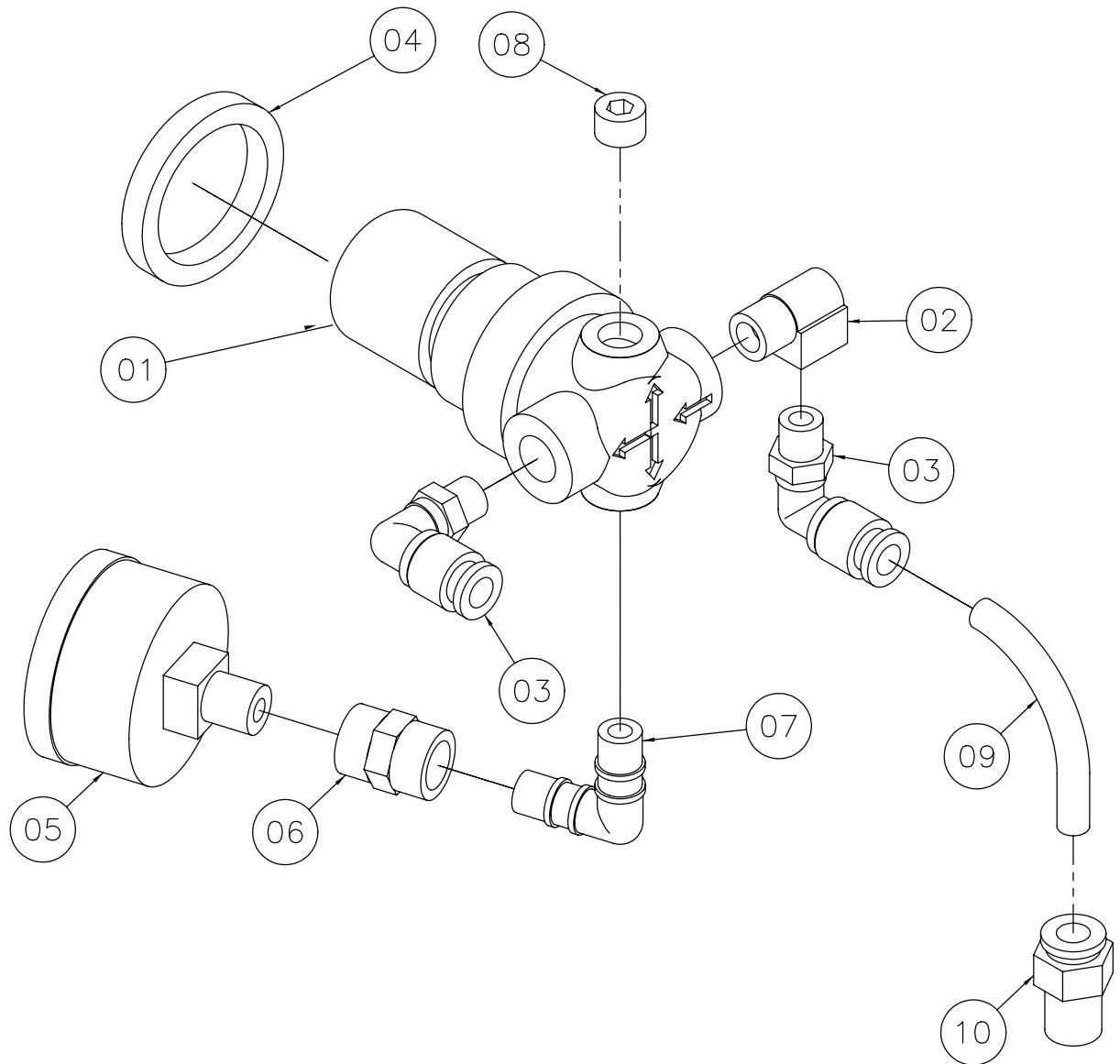
DESCRIPTION	ASSEMBLY, FRONT PANEL		PART NUMBER
PRODUCT	R-310 SEMI-AUTOMATIC ROUND PRODUCT LABEL APPLICATOR		310-1-20F
DRAWN BY	P.M.H.	JOB NUMBER	
DATE	05/07/2003		
3501 8TH AVENUE SOUTH ST. PETERSBURG, FLORIDA 33711 TEL. (727) 327-2123			

Bill of Material

REGULATOR ASSEMBLY

R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	100300	REGULATOR, AIR	1
02	100229	OBSOLETE USE 100209	1
03	100217	OBSOLETE-USE# 100345	2
04	100321	NUT, PANEL MOUNT AIR REGULATOR	1
05	100301	GAUGE, 1.5 DIAMETER AIR	1
06	100210	FTNG, 1/8 COUPLING	1
07	100203	FTNG, 1/8M ELBOW	1
08	100228	FTNG, 1/8 SOCKET PLUG	1
09	100405-120	AIRLINE, 1/4" X 10' WHITE	1
10	100220	FTNG, 1/4M TO 1/4F	1



DESCRIPTION	ASSEMBLY, REGULATOR		PART NUMBER
PRODUCT	R-310 SEMI-AUTOMATIC ROUND PRODUCT LABEL APPLICATOR		310-1-30
DRAWN BY	P.M.H.	JOB NUMBER	
DATE	05/21/2003		
 UNIVERSAL™ LABELING SYSTEMS INC.		 3501 8TH AVENUE SOUTH ST. PETERSBURG, FLORIDA 33711 TEL. (727) 327-2123	

Bill of Material

LABEL SENSOR/PEELER ASSEMBLY

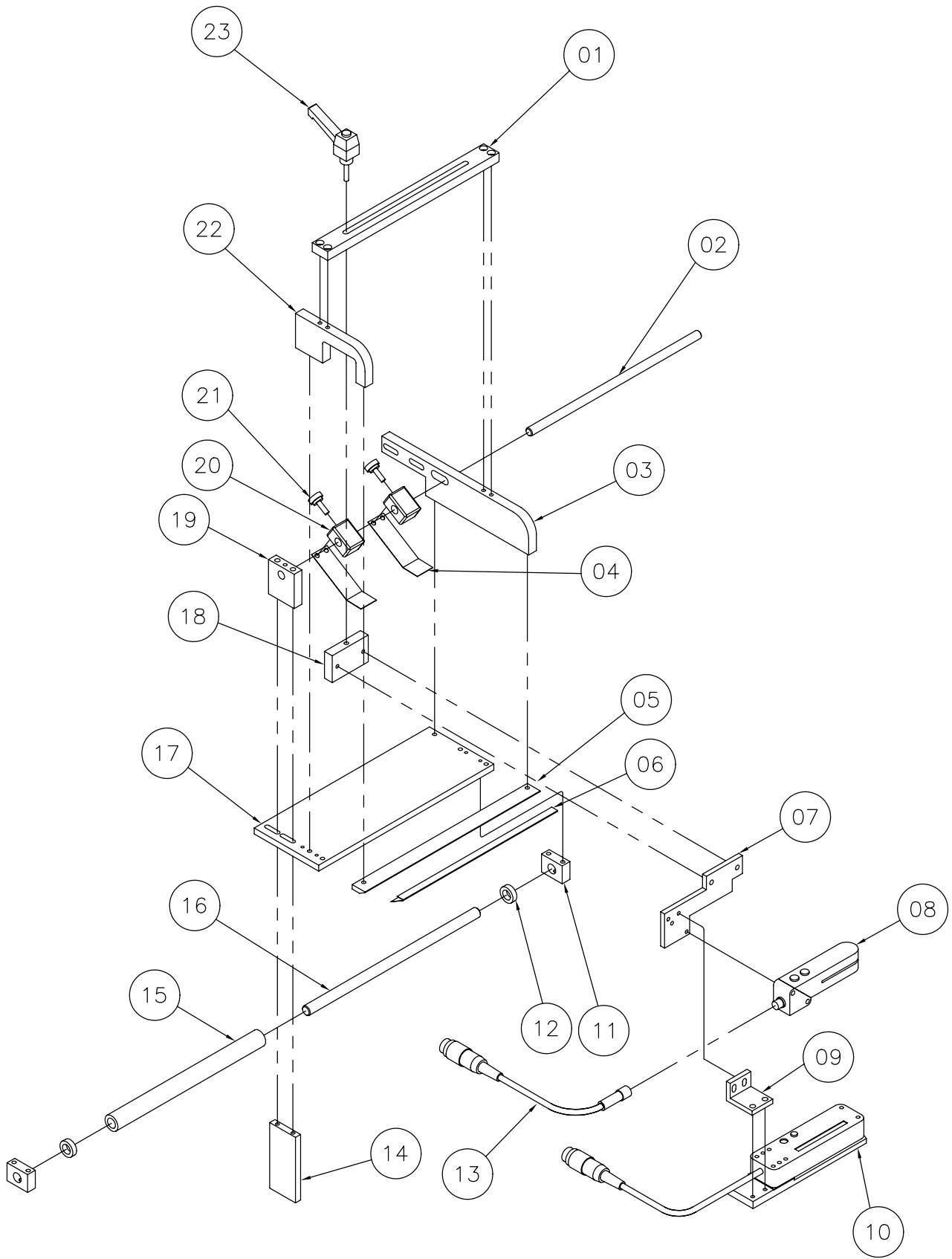


310-I-40F

MACHINE: R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	MD-756	BAR, OPTICAL LABEL SENSOR ADJ.	1
02	SRL-500-57-1WA	SHAFT, WEB DRAG	1
03	MD-755	BLOCK, PEEL PLATE ADJUSTING	1
04	MP-2500-9	PLATE, WEB DRAG PRESSURE	2
05	MD-762	PLATE, PEELER	1
06	600300-07.500	UHMW, TAPE, 1" x 7-1/2" L.	1
07	MD-758	BLOCK, SENSOR MOUNTING	1
08	200374-1	SENSOR, LABEL EYE(TRI-TRONICS)	1
09*	MD-765	BRACKET, SENSOR MOUNTING	1
10*	210131B	ASSEMBLY, CLEAR/FOIL LABEL SENSOR	1
11	MD-754	BLOCK, 3/8" SHAFT	2
12	L-172-08	WASHER, UHMW 187 X 375 X 625	2
13	200376B	ASSEMBLY, CABLE W/ 4 PIN AMPHENOL	1
14	MD-706-W	BAR, STRIPPER PLATE SUPPORT	1
15	500525-7.170	ROLLER, IDLER	1
16	MD-759	SHAFT, DEFLECTION ROLLER	1
17	MD-761	PLATE, PEELER ASSEMBLY	1
18	MD-757	BLOCK, SENSOR ADJUST	1
19	MD-766	BLOCK, WEB DRAG MOUNTING	1
20	L60-0035	BLOCK, WEB DRAG	2
21	850008T	THUMSCREW, 8-32 X 1/2"	2
22	MD-760	BLOCK, PEELER PLATE SUPPORT	1
23	500081	HANDLE, 10-32 MALE RATCHET	1

* OPTIONAL CLEAR LABEL SENSOR



DESCRIPTION	ASSEMBLY, PEELER/LABEL SENSOR		PART NUMBER 310-1-40F
PRODUCT	R-310 SEMI-AUTOMATIC ROUND PRODUCT LABEL APPLICATOR		
DRAWN BY P.M.H.	JOB NUMBER DATE 05/08/2003	PART NUMBER	
			

Bill of Material

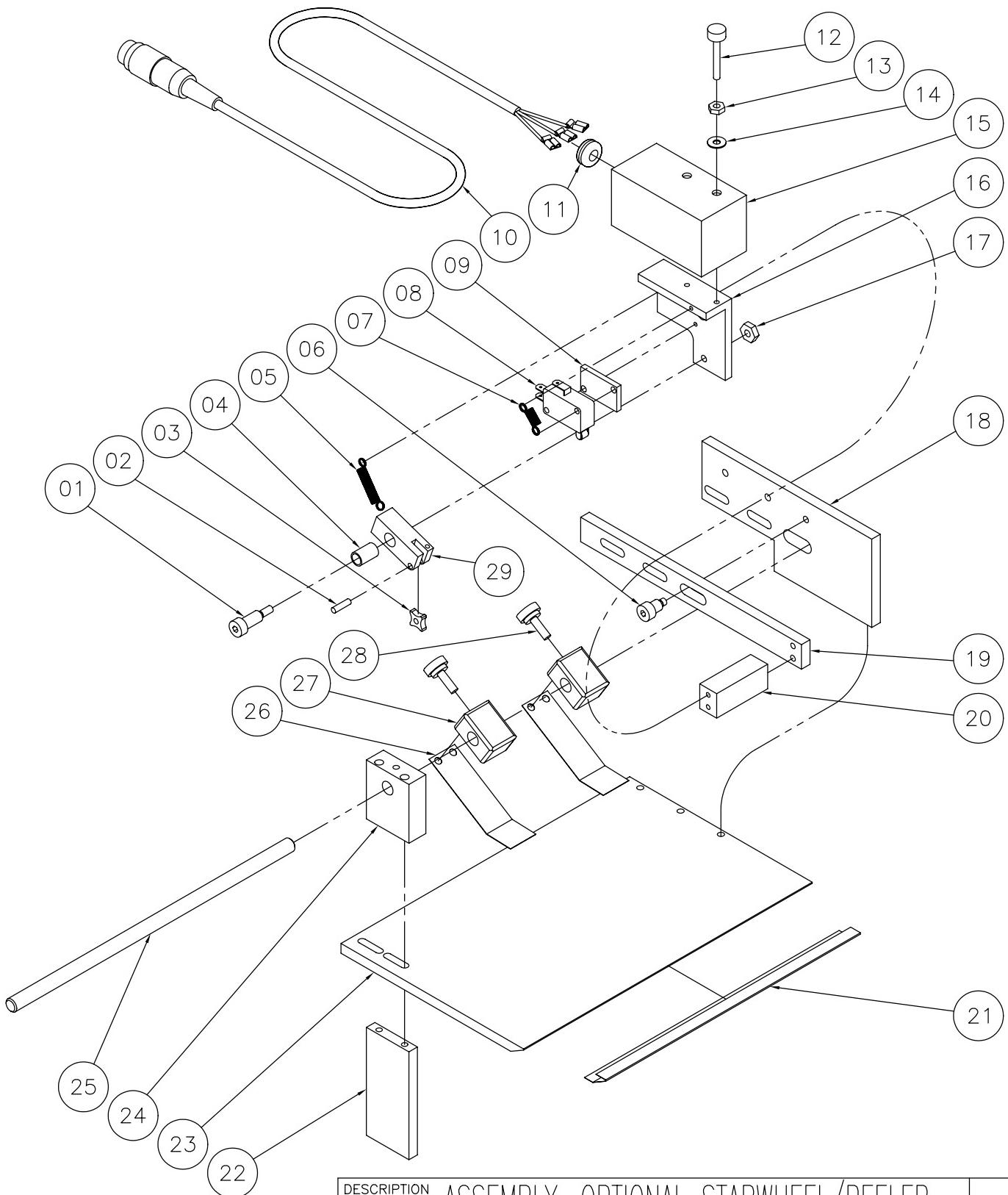
OPTIONAL STARWHEEL/PEELER ASSEMBLY



310-I-41F

MACHINE: R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	855001	SHOULDER BOLT, 1/4 X 1/2" L.	1
02	L-170	PIN, STARWHEEL PIVOT ARM ASSEMBLY.	1
03	L-129-S	STARWHEEL, LABEL SENSING	1
04	SRL-500-73	BUSHING, 313 X 250 X 495	1
05	420175B	SPRING, 3/16 X 1-1/8 EXT. SS	1
06	200600-A	BOLT, COUPLER MOUNTING	1
07	420175A	SPRING, 3/16 X 3/4 EXT. SS	1
08	200109	SWITCH, MICRO	1
09	L-164	SPACER, MICRO SWITCH	1
10	200016B	ASSEMBLY, OPTIONAL STARWHEEL SWITCH CABLE	1
11	200001	GROMMET, 1/16" X 1/4"	1
12	850015T	THUMBSCREW, 6-32 X 1-1/4"	1
13	854008	NUT, 6-32 HEX SS	1
14	853008	WASHER, #6 FW SS	1
15	MD-717	COVER, STARWHEEL (BLACK)	1
16	SRL-500-65	BRACKET, LABEL SENS. MOUNTING	1
17	854009	NUT, 10-24 HEX SS	1
18	SRL-500-81	PLATE, PEELER ADJUSTING	1
19	SRL-500-32	BRACKET, STARWHEEL SUPPORT	1
20	SRL-500-64A	BRACKET, STARWHEEL MOUNTING	1
21	600300-07.500	UHMW, TAPE, 1" x 7-1/2" L.	1
22	MD-706-W	BAR, STRIPPER PLATE SUPPORT	1
23	SRL-500-31-W	PLATE, WL/GALLON PEELER	1
24	SRL-500-57A	BLOCK, WEB DRAG MOUNTING	1
25	SRL-500-57-1WA	SHAFT, WEB DRAG	1
26	MP-2500-9	PLATE, WEB DRAG PRESSURE	2
27	L60-0035	BLOCK, WEB DRAG	2
28	850008T	THUMBSCREW, 8-32 X 1/2"	2
29	SRL-500-66	ARM, STARWHEEL PIVOT	1



DESCRIPTION	ASSEMBLY, OPTIONAL STARWHEEL/PEELER		PART NUMBER
PRODUCT	R-310 SEMI-AUTOMATIC ROUND PRODUCT LABEL APPLICATOR		310-1-41F
DRAWN BY	G.T.H.	JOB NUMBER	
DATE	08/20/2003		PART NUMBER
UNIVERSAL™ LABELING SYSTEMS INC.			3501 8TH AVENUE SOUTH ST. PETERSBURG, FLORIDA 33711 TEL. (727) 327-2123

Bill of Material

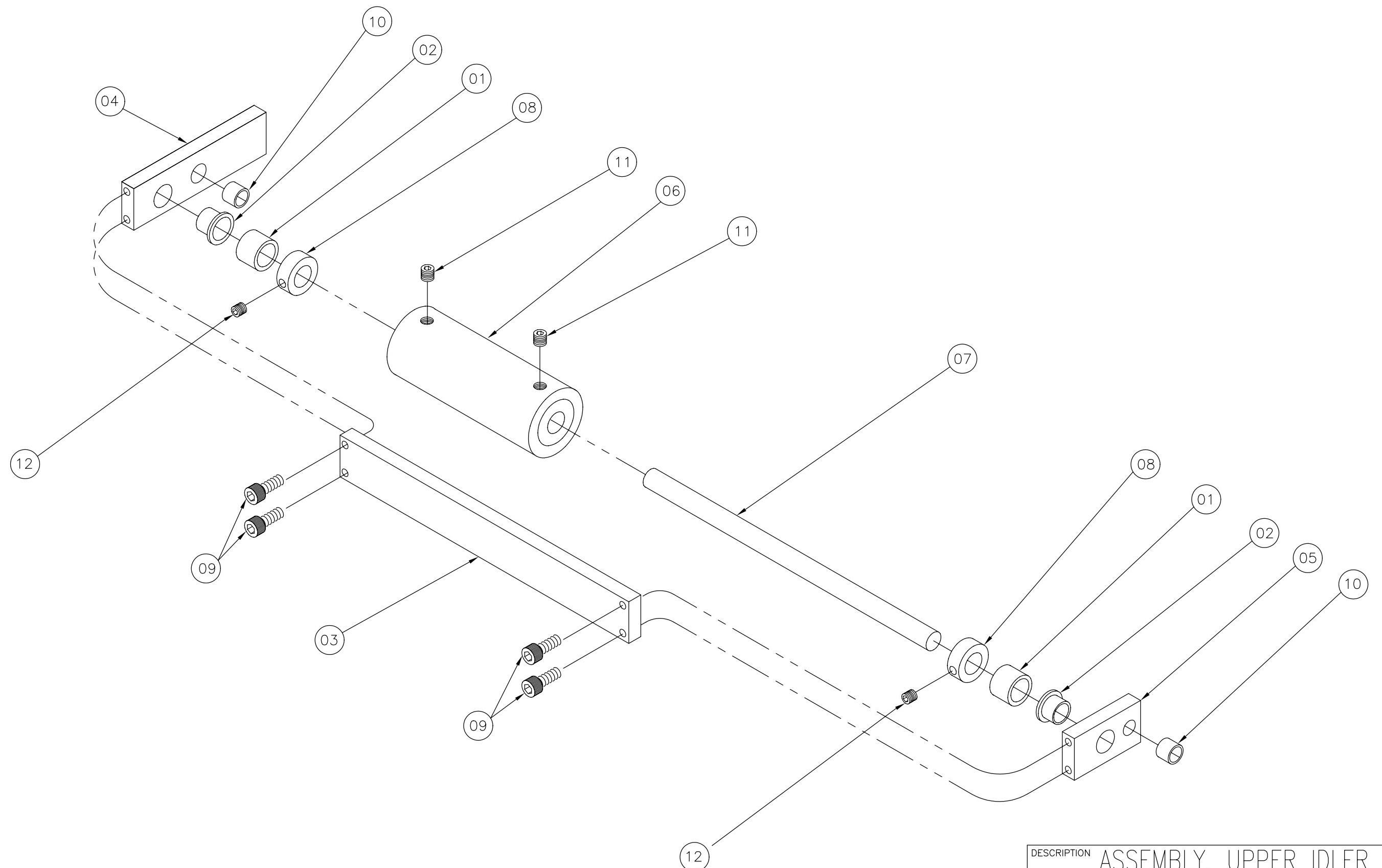
UPPER IDLER ROLL ASSEMBLY



310-I-50E

MACHINE: R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	430180	BUSHING, 375 X 313 X 375	2
02	SRL-500-74	BUSHING,S 375 X 313 X 280	2
03	MD-707-1-W	BAR, PIVOT TIE (WIDE LABEL)	1
04	MD-707-2	BLOCK, OUTER BEARING	1
05	MD-707-3	BLOCK, INNER BEARING	1
06	SRL-500-3403875	ROLLER, 3-7/8" UPPER IDLER	1
07	MD-730-2-W	SHAFT, IDLER WIDE LABEL	1
08	SC-005	COLLAR, SET .313 X .62 X .25	2
09	850005	SCREW, 6-32 X 1/2" L SHCS	4
10	430125	BUSHING, 313 X 250 X 250	2
11	857004	SET SCREW, 10-32 X 1/4" SS	2
12	857003	SET SCREW, 8-32 X 1/8" L SS	2



DESCRIPTION		ASSEMBLY, UPPER IDLER ROLL		PART NUMBER 310-1-50E	
PRODUCT		D-105, R-310, & R-360 LABEL APPLICATORS			
DRAWN BY	J.R.L.	JOB NUMBER			
DATE	05-13-1994				
-	—	—	—		
REV	DATE	ECO	REVISION RECORD	CHANGE BY CHKD BY	

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PRINT NUMBER
310-1-50E

Bill of Material

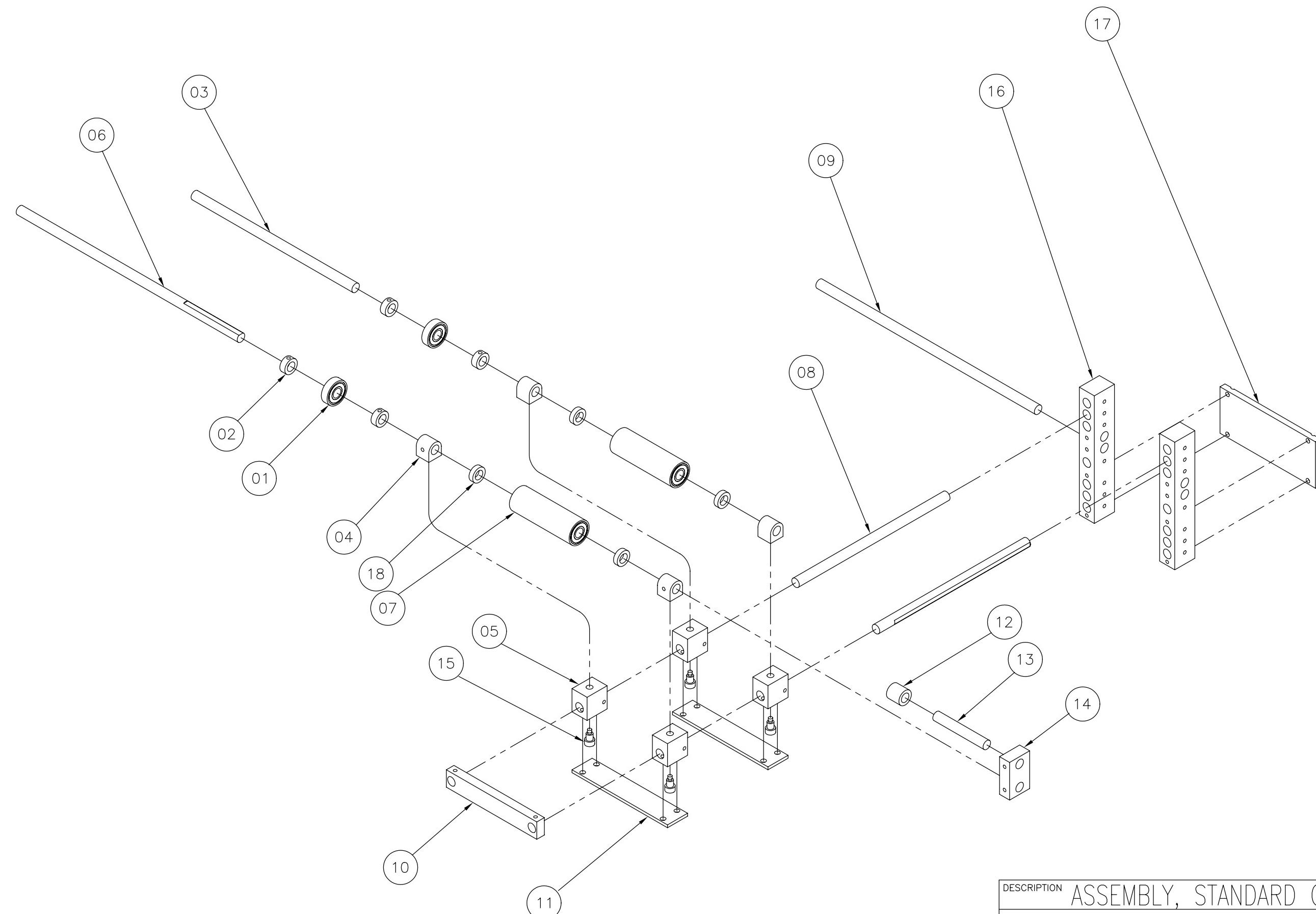
STANDARD CARRIAGE ASSEMBLY



310-I-62

MACHINE: R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	SRL-500-62A	ASS'Y, IDLER ROLLER	2
02	SC-006	COLLAR, SET .376 X .62 X .250	4
03	SRL-500-05-1	SHAFT, LOWER BACK IDLER	1
04	SRL-500-14-D	COUPLER, IDLER SHAFT	4
05	SRL-500-14-E	CARRIER, LOWER IDLER ROLL	4
06	SRL-500-06-1	SHAFT, LOWER FRONT IDLER	1
07	L-143-D-03.000	ROLLER, 3" LOWER IDLER	2
08	SRL-500-02	SHAFT, CARRIER SIDE	2
09	SRL-500-03	SHAFT, PIVOT	1
10	SRL-500-09	BRACKET, LOWER CARRIAGE	1
11	SRL-500-15-1	PLATE, LOWER IDLER ROLL	2
12	SRL-500-11	BOTTLE STOP, PLASTIC	1
13	SRL-500-52	SHAFT, BOTTLE STOP	1
14	SRL-500-10	BRACKET, BOTTLE STOP	1
15	200600-A	BOLT, COUPLER MOUNTING	4
16	SRL-500-45	ARM, ACTUATOR	2
17	SRL-500-46	BAR, ACTUATOR ARM TIE	1
18	L-172-08	WASHER, UHMW 187 X 375 X 625	4



DESCRIPTION		ASSEMBLY, STANDARD CARRIAGE	
PRODUCT		R-310 SEMI-AUTOMATIC ROUND PRODUCT LABEL APPLICATOR	
DRAWN BY	P.M.H.	JOB NUMBER	PART NUMBER
		DATE 07/10/2003	
 UNIVERSAL™ LABELING SYSTEMS INC.		3501 8TH AVENUE SOUTH ST. PETERSBURG, FLORIDA 33711 TEL. (727) 327-2123	

Bill of Material

13" UNWIND ASSEMBLY



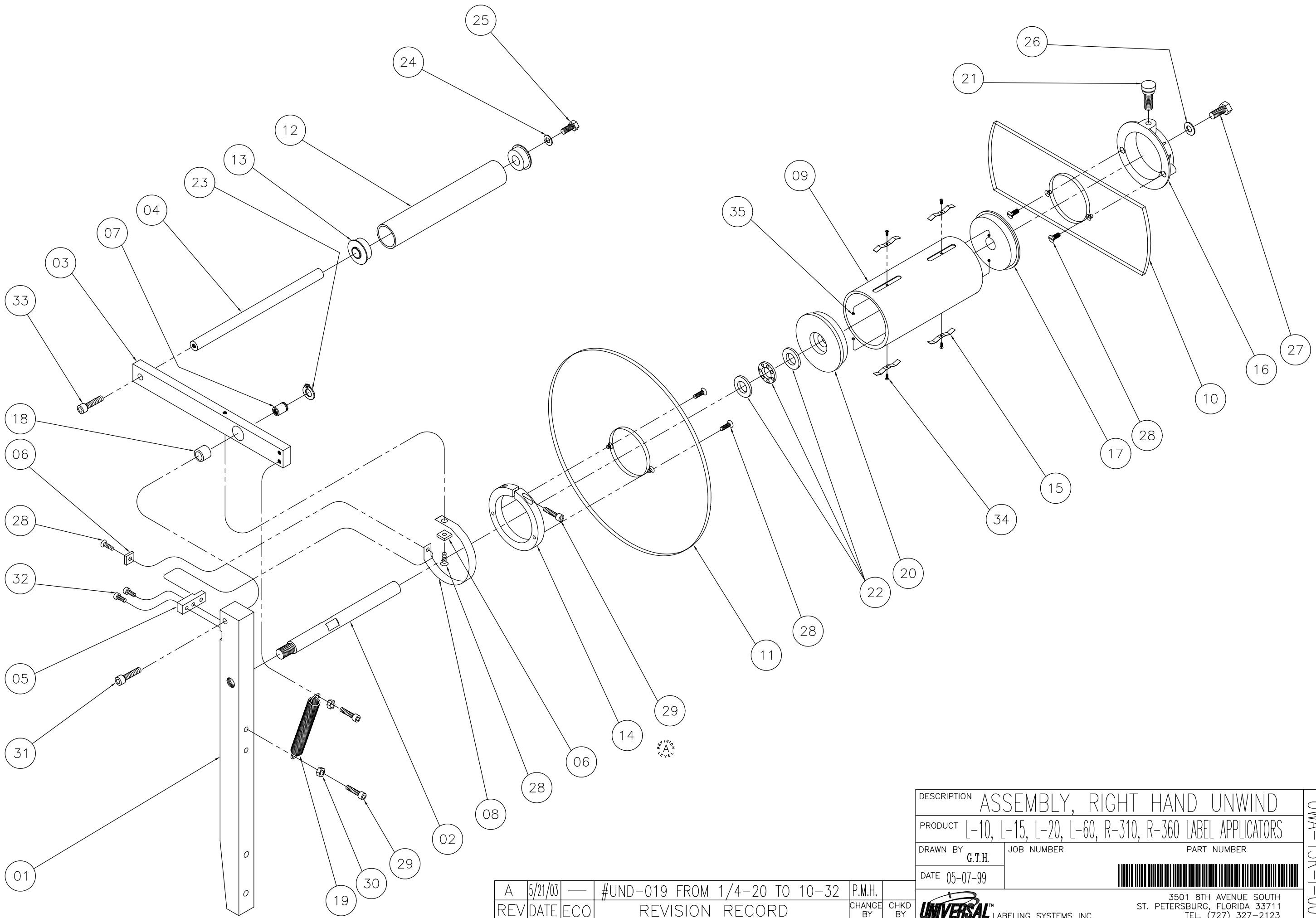
UWA-13R-I-00

MACHINE: R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	UND-001	BAR, LABEL REEL MOUNTING	1
02	UND-002	SHAFT, UNWIND HUB	1
02(A)	UND-002C	SHAFT, 7-1/2" WEB UNWIND	1
02(B)	UND-002D	SHAFT, 8-1/2" WEB UNWIND	1
03	UND-003	ARM, UNWIND BRAKE	1
04	UND-004	SHAFT, BRAKE ARM	1
04(A)	UND-004-07.50	SHAFT, 7-1/2" WEB BRAKE ARM	1
04(B)	UND-004E	SHAFT, 8-1/2" WEB BRAKE ARM	1
05	UND-006	BLOCK, BELT FASTENER	1
06	UND-007	CLAMP, BELT	2
07	UND-008	STUD, BRAKE ARM	1
08	UND-009-1	STRAP, BRAKE	1
09	UND-011C	HUB, MAIN UNWIND	1
09(A)	UND-011B	HUB, 7-1/2" WEB MAIN UNWIND	1
09(B)	UND-011H	HUB, 8-1/2" WEB MAIN UNWIND	1
10	UND-013	DISC, REMOVABLE LABEL	1
11	UND-015	DISC, UNWIND BACKING	1
12	UND-038	ROLLER, BRAKE IDLER	1
12(A)	UND-038-07.50	ROLL, 7-1/2" WEB BRAKE IDLER	1
12(B)	UND-038E	ROLL, 8-1/2" WEB BRAKE IDLER	1
13	UND-037	BEARING, BRAKE ARM ROLLER	2
14	UND-019	CLAMP, INNER BACKING DISC	1
15	200409	CLIP, CORE (FOR HUB)	4
16	UND-042	CLAMP, OUTER BACKING DISC	1
17	UND-027	BEARING, END CAP ROLLER	1
18	430306	BUSHING, 750 X 500 X 625"	1
19	420210	SPRING, 1/2 X 3.125" EXTENSION	1
20	UND-046	BEARING, END CAP ROLLER	1
21	820000	THUMBSCREW, 1" BLACK NYLON	1
22	400059	BEARING, 5/8" THRUST W/WASHERS	1
23	856005	RING, 1/2" EXT. RETAINING	1
24	853003	WASHER, 1/4" .050 THK 5/8 ODFW	1
25	851002	SCREW, 1/4-20 X 1/2" HHMS	1
26	853001	WASHER, 5/16" FW SS	1
27	851003	SCREW, 5/16-18 X 1/2" HHMS SS	1
28	852001	SCREW, 10-32 X 1/2" FHMS PHIL	6
29	850002	SCREW, 10-32 X 1" L SHCS	3
30	854001	NUT, 10-32 HEX	2
31	850003	SCREW, 5/16-18 X 1-1/4" L SHCS	1
32	850006	SCREW, 6-32 X 5/8" L SHCS	2
33	850004	SCREW, 5/16-18 X 1" L SHCS	1
34	852501	SCREW, 4-40 X 1/4" L PHMS PHIL	4
35	854007	NUT, 4-40 HEX SS	4

(A)=FOR 7-1/2" WIDE WEB

(B)=FOR 8-1/2" WIDE WEB



PRINT NUMBER	UWA-13R-1-00	
DESCRIPTION	ASSEMBLY, RIGHT HAND UNWIND	
PRODUCT	L-10, L-15, L-20, L-60, R-310, R-360 LABEL APPLICATORS	
DRAWN BY	G.T.H.	JOB NUMBER
DATE	05-07-99	PART NUMBER
A 5/21/03 —	#UND-019 FROM 1/4-20 TO 10-32	P.M.H.
REV	DATE	ECO
REVISION RECORD		
CHANGE BY	CHKD BY	

UNIVERSAL™

3501 8TH AVENUE SOUTH
ST. PETERSBURG, FLORIDA 33711
TEL. (727) 327-2123

POWER MODULE SETUP SHEET

PLEASE READ CAREFULLY BEFORE INSTALLING

SWITCH #1 DELAY SELECT

OFF - NO DELAY
 ON - START AND STOP DELAY SET BY FRONT PANEL CONTROLS
 START CONTROL - 0 TO 1 SEC.
 STOP CONTROL - 0 TO 0.1 OR 1.0 SEC. (SEE JUMP 9)

SWITCH #2 MACHINE MODE SELECT

OFF - L15 OPERATION
 ON - L60 OPERATION

SWITCH #3 CLUTCH / BRAKE DELAY SELECT

- [L15] SWITCH #3, W/SWITCH #2 OFF
 OFF - 0 mS
 ON - 25 mS
- [L60] SWITCH #3, W/SWITCH #2 ON
 OFF - BLOW-ON
 ON - TAMP-ON

SWITCH #4 START SWITCH LOGIC LEVEL SELECT

OFF - FALLING SIGNAL EDGE ACTIVATION
 ON - RISING SIGNAL EDGE ACTIVATION

SWITCH #5 STOP SWITCH LOGIC LEVEL SELECT

OFF - FALLING SIGNAL EDGE ACTIVATION
 ON - RISING SIGNAL EDGE ACTIVATION

JUMPERS #6 START SWITCH TYPE SELECT

PINS 1 & 2 - SPDT START SWITCH
 PINS 2 & 3 - SINGLE POLE INPUT

JUMPERS #8 SINGLE POLE START SWITCH POLARITY SELECT

PINS 1 & 2 - SWITCHES TO POSITIVE +5V TO +24V DC (PNP)
 PINS 2 & 3 - SWITCHES TO GROUND (NPN)

JUMPERS #9 STOP DELAY SELECT

PINS 1 & 2 - LONG DELAY 0 TO 1 SEC.
 PINS 2 & 3 - SHORT DELAY 0 TO 0.1 SEC.

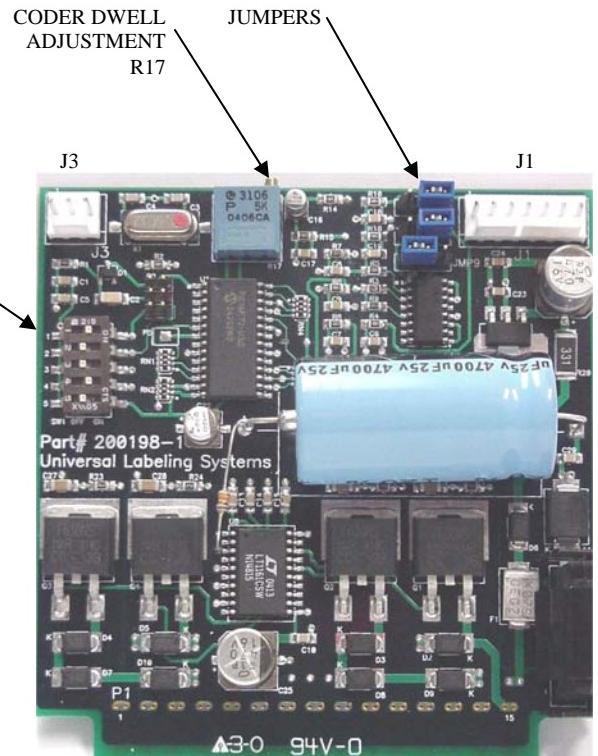
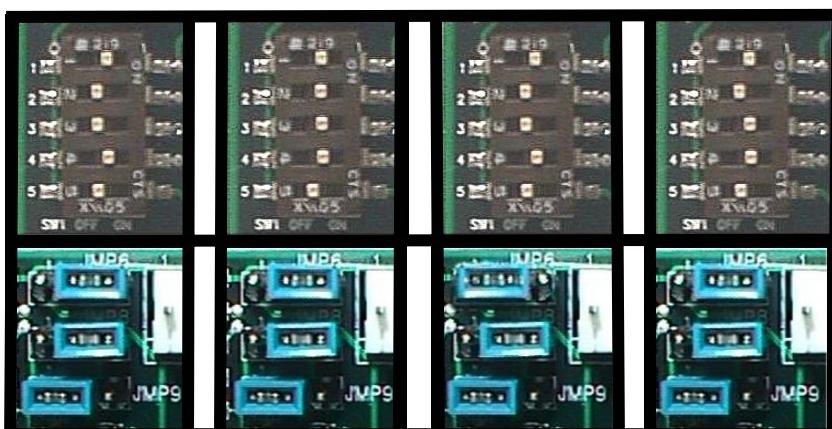
DEFAULT SETTINGS

L-15

L-60

R-310

SL-1000

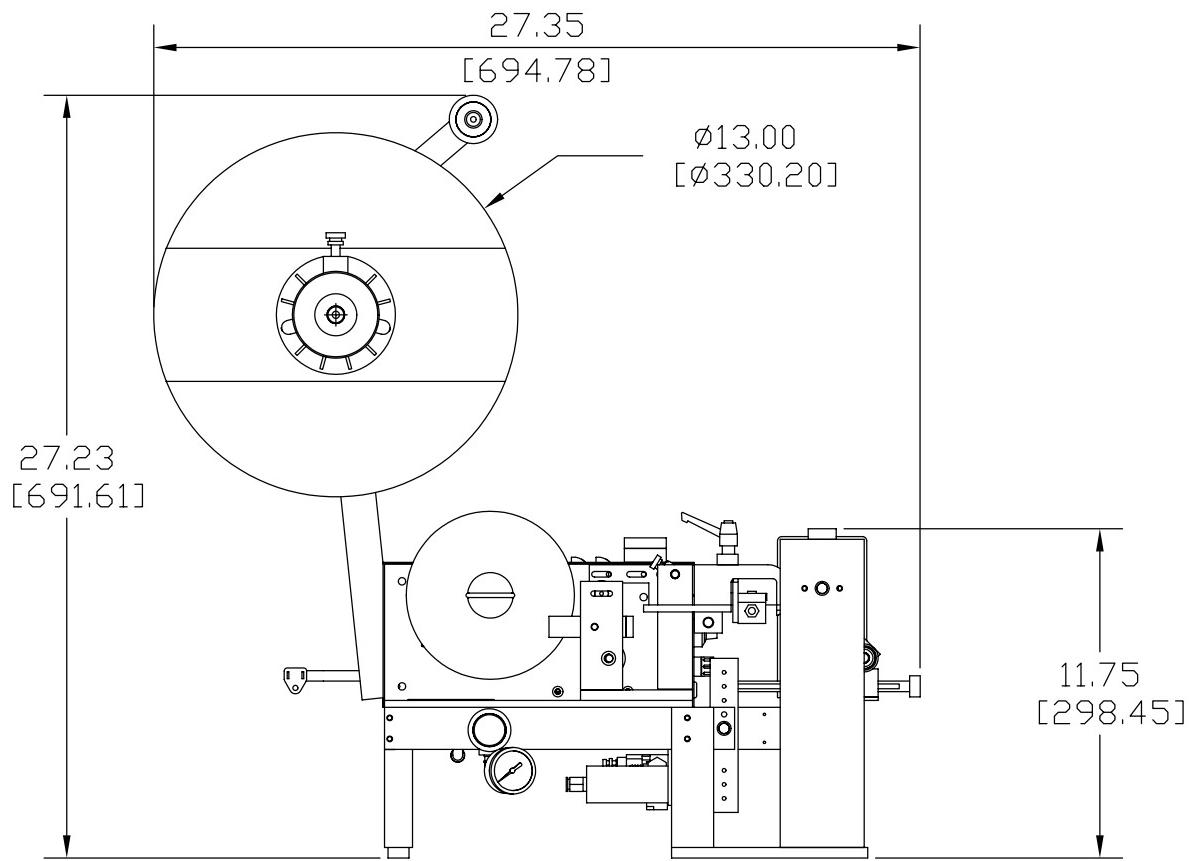
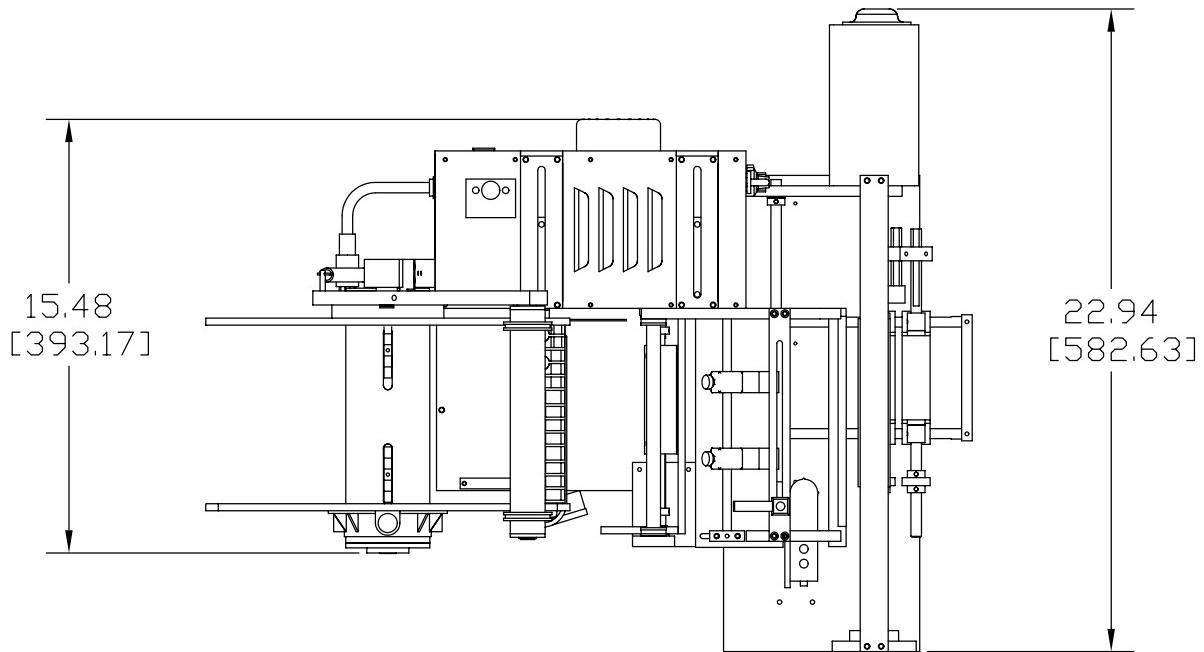


MONTH / NUMBER / YEAR

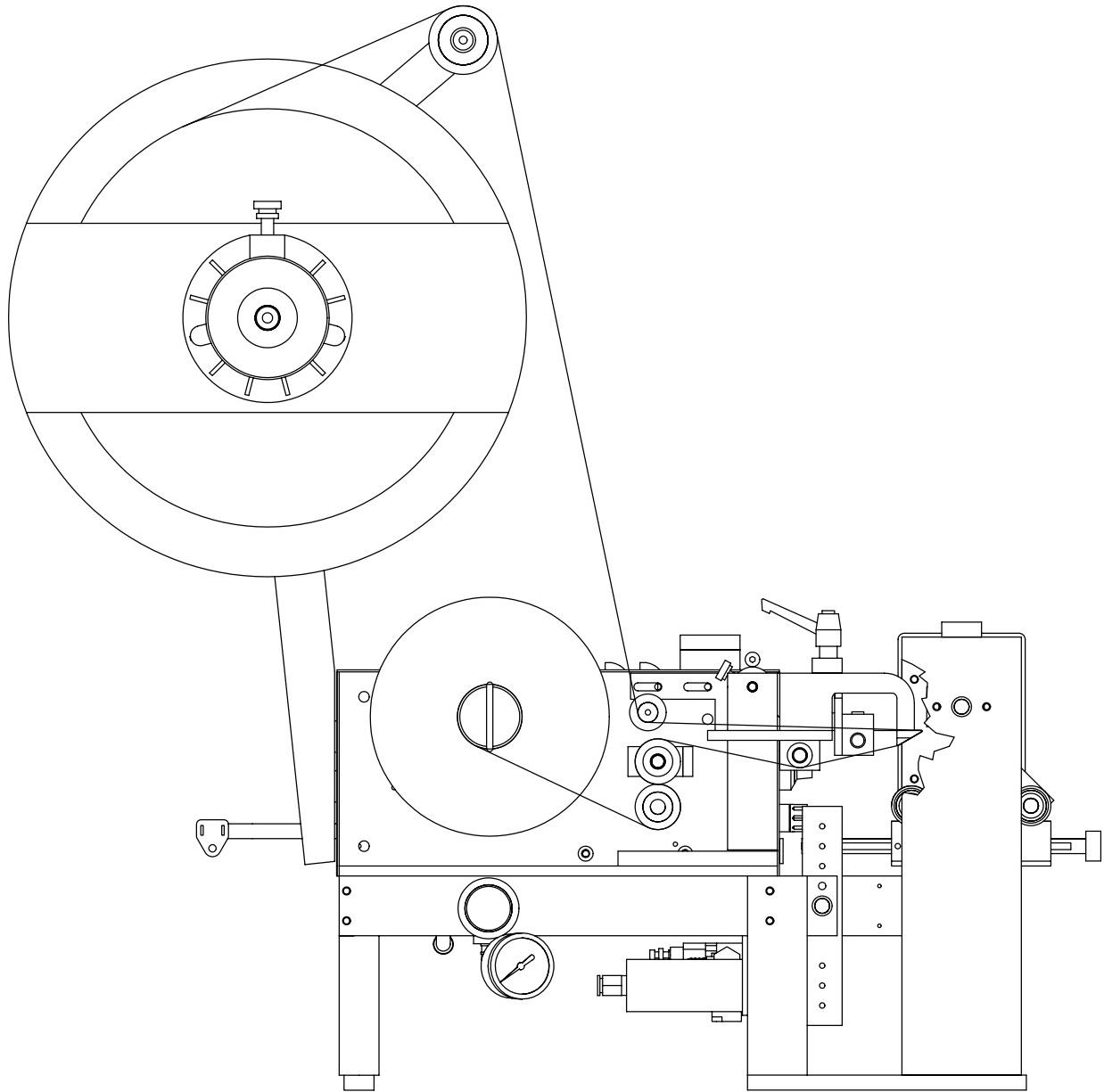
PRINTED CIRCUIT BOARD # 00|000|00

The Universal Power Module is designed to operate the L15, L20, L30, R310, MP25, L60, and SL1000 series of label machines. The L15, L20, L30 and MP25 are set up the same!
 The L60, R310 & SL-1000 are different,
 SEE DEFAULT SETTINGS.

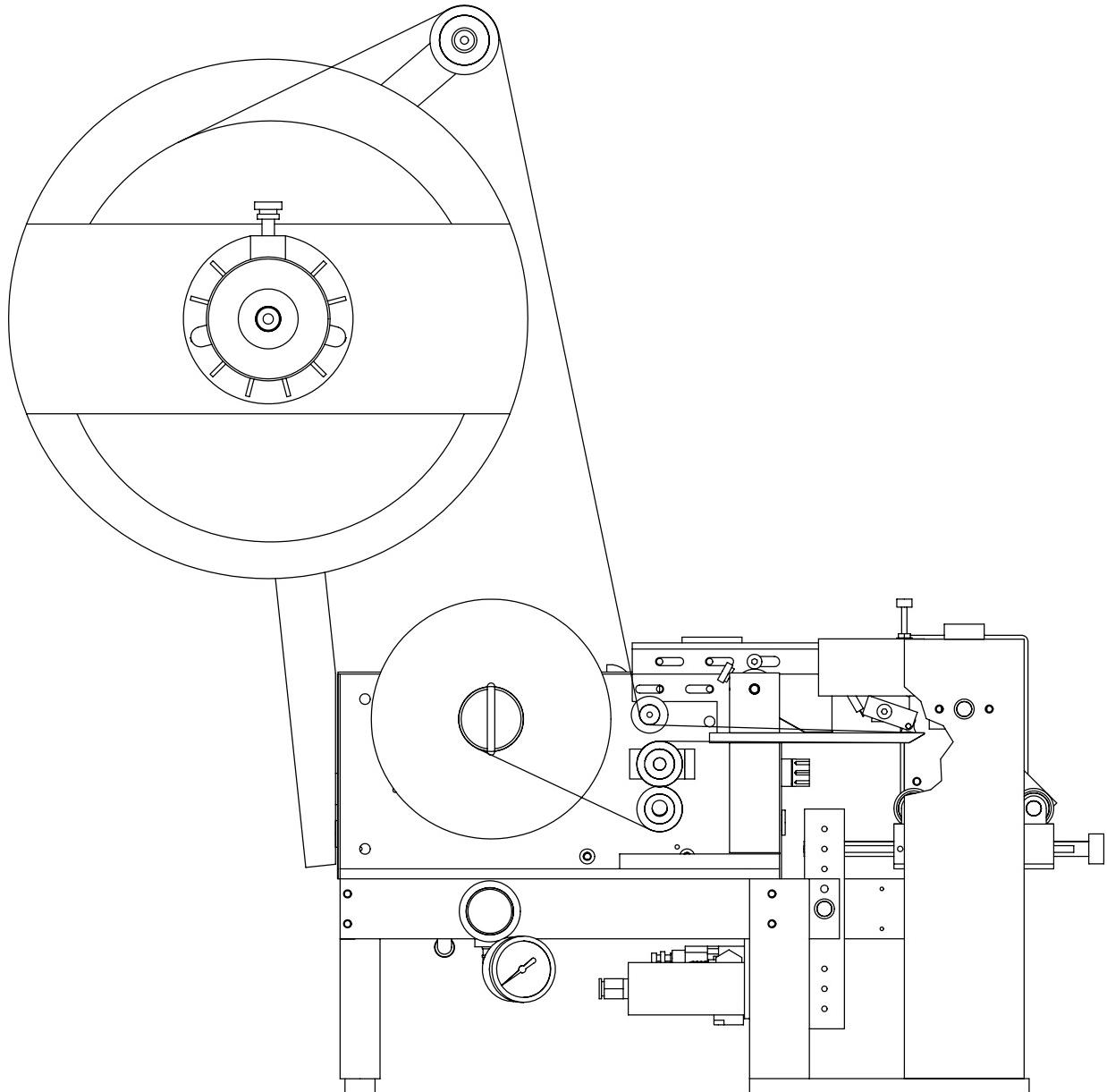
Coder output is adjusted by (R17) top left board and operates in all modes. The dwell time is adjustable from 0 to 0.5 seconds. The next start signal or product signal will be ignored until the coder pulse is turned off.
 (NOTE) IF YOU HAVE L-60 WITH FRONT & REAR BOARD,
 THE BOARD MUST BE SET UP AS L-15.



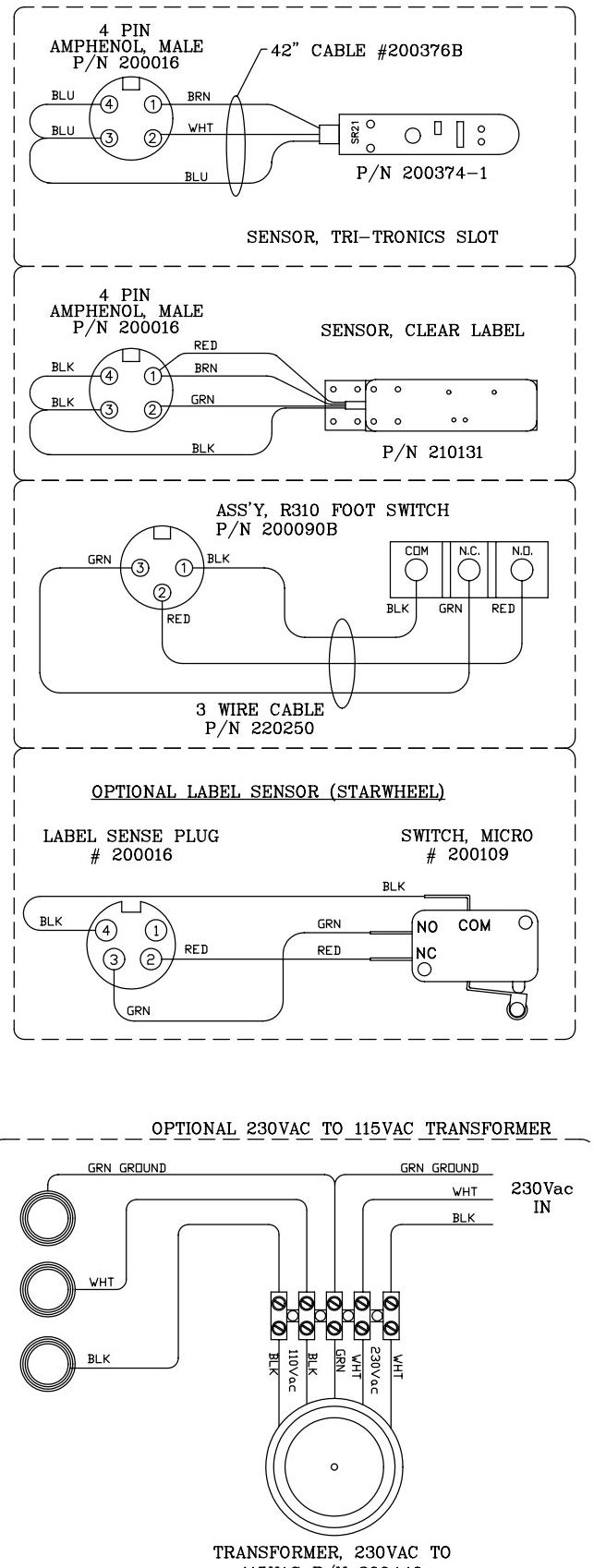
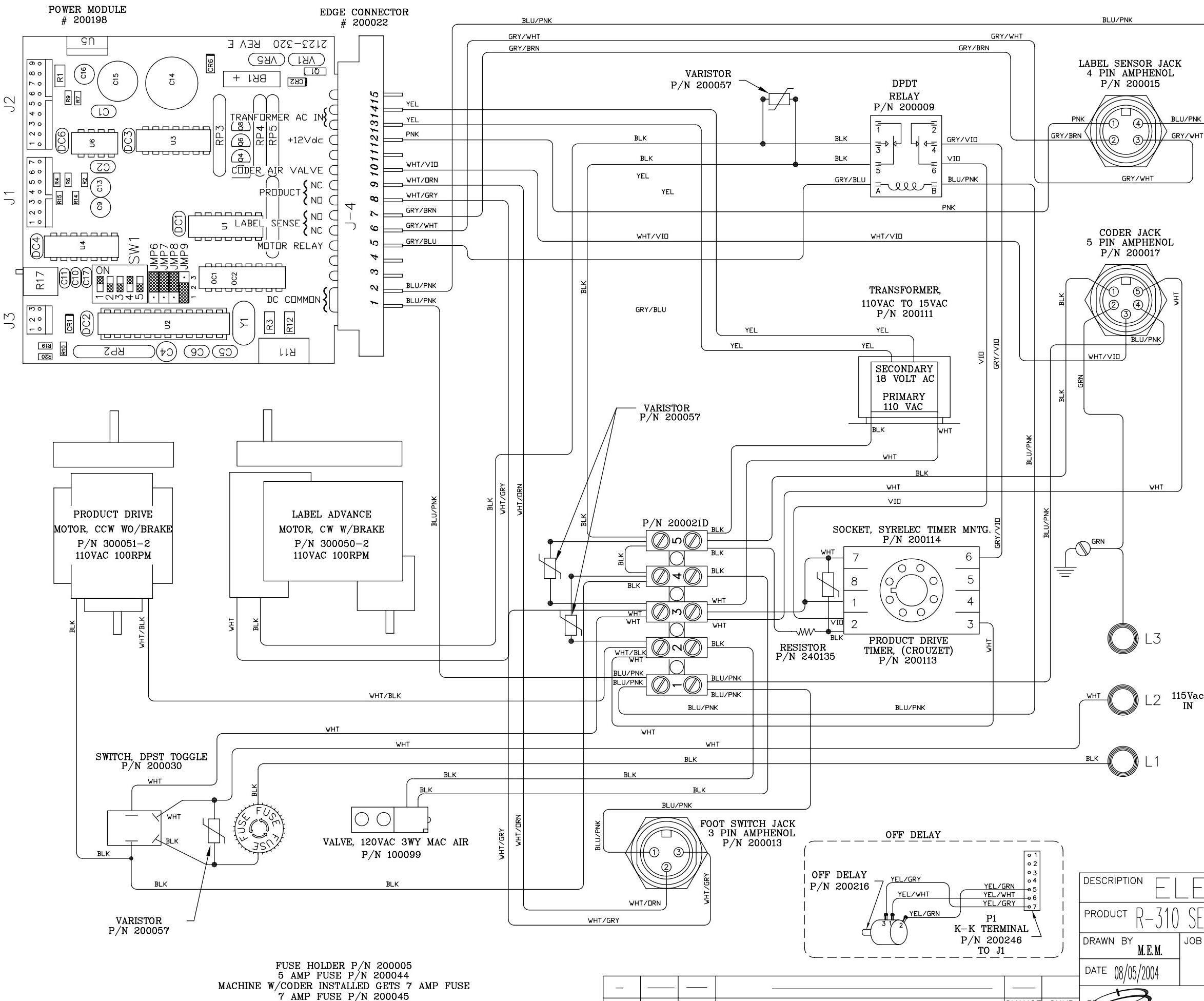
DESCRIPTION		DIMENSIONAL DIAGRAM		PART NUMBER 310-F-00F
PRODUCT	R-310 LABEL APPLICATOR	DRAWN BY G.T.H.	JOB NUMBER	
DRAWN BY G.T.H.				
DATE 08/20/2003				
 UNIVERSAL TM LABELING SYSTEMS INC.				3501 8TH AVENUE SOUTH ST. PETERSBURG, FLORIDA 33711 TEL. (727) 327-2123



DESCRIPTION	WEBBING DIAGRAM		PART NUMBER
PRODUCT	R-310 LABEL APPLICATOR (OPTICAL)		310-W-00F
DRAWN BY	P.M.H.	JOB NUMBER	
DATE	05/19/2003		
 UNIVERSAL TM LABELING SYSTEMS INC.			
3501 8TH AVENUE SOUTH ST. PETERSBURG, FLORIDA 33711 TEL. (727) 327-2123			



DESCRIPTION	WEBBING DIAGRAM		PART NUMBER 310-W-00E
PRODUCT	R-310 LABEL APPLICATOR (OPTIONAL STARWHEEL)		
DRAWN BY	T.J.A.	JOB NUMBER	
DATE	02/20/2001		
 UNIVERSAL TM LABELING SYSTEMS INC.		3501 8TH AVENUE SOUTH ST. PETERSBURG, FLORIDA 33711 TEL. (727) 327-2123	



DESCRIPTION		ELECTRICAL DIAGRAM	PRINT NUMBER
PRODUCT		R-310 SEMI-AUTOMATIC PRODUCT LABEL APPLICATOR	310-H-00H
DRAWN BY	JOB NUMBER		
M.E.M.			
DATE 08/05/2004		P1	
K-K TERMINAL		P/N 200246	
TO J1			
REV	DATE	ECO	CHANGE BY
			CHKD BY

UNIVERSAL™



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REVISION RECORD